



Missouri Department of Natural Resources
Air Pollution Control Program
2021 Monitoring Network Plan

July 26, 2021

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Summary of Recent and Proposed Changes

The Missouri Department of Natural Resources operates an extensive network of ambient air monitors. Missouri's Monitoring Network Plan describes the network and discusses recent and proposed changes. The changes are summarized below.

1. The Department intends to discontinue the St. Joe State Park special purpose monitoring (SPM) site by the end of 2021. This site was installed to monitor airborne lead concentrations during remediation activities involving old lead mining waste. Remediation activities in St. Joe State Park are now complete, and the lead standard was never exceeded at this site.
2. The Department is continuing the process of obtaining and installing retrofits of the 1405-DF instruments at PM_{2.5} monitoring sites to 1405-Fs. As of April 2021, the Department is operating 1405-F instruments at nine sites. We plan to convert one additional site (Richards Gebaur South) to 1405-F operation in 2021, subject to the availability of funds.
3. The Department continues to operate, and evaluate for future use in the PM_{2.5} network, the Teledyne API T640X instruments at Blair Street and at Troost as special purpose monitors for PM₁₀ measurement. These instruments measure airborne particulate concentration using light scattering. One of the T640X instruments previously operated at Blair Street was relocated to the Branch Street site in July 2020 in order to evaluate its performance in a location with a higher atmospheric particulate concentration. The Department plans to install, and operate an additional T640X instrument at the Hillcrest High School site in Springfield by September 2021, in order to continue evaluation of the instrument in different regions of the state.
4. The Department plans to install a Teledyne API T640, provided by EPA, at the Forest Park site in St. Louis and operate it for about one year. Data from that instrument, if it becomes available, with a time resolution as short as one minute, and time-resolved data from other instruments will be provided to EPA. The data will be used in non-parametric trajectory analysis (NTA), which uses PM_{2.5} concentrations, other air quality data and wind data to help identify source impacts. Time-resolved data from the Teledyne API T640X and other instruments at the Troost site in Kansas City are also expected to be provided for this project.
5. The West Alton ozone monitoring site was inoperative from May 2, to 16, and May 22, to July 16, 2019, because it was removed to avoid damage due to flooding. Because of its importance as the design value site for the St. Louis area, an elevated platform above the 2019 high water level was constructed at the site, and the Department intends to complete installation of a shelter and instrumentation on the elevated platform by the end of 2021. The elevated site will still meet probe height requirements.
6. Photochemical Assessment Monitoring Station (PAMS) monitoring is beginning at the Blair Street site in St. Louis in June 2021. PAMS monitoring will measure organic

compounds, nitrogen oxides and meteorological parameters important in ozone formation that will enhance the understanding of photochemical processes in the atmosphere and aid in continuing development of computer air quality models.

How to Make Public Comments Concerning this Plan

The Department of Natural Resources posted this 2021 Monitoring Network Plan (Revision 0) on the web for public review and comment on June 4, 2021. The Department accepted comments concerning the plan electronically at cleanair@dnr.mo.gov, or by mail to the following address:

Missouri Department of Natural Resources
Air Pollution Control Program
Air Quality Analysis Section/Air Monitoring Unit
PO Box 176
Jefferson City MO 65102

The Department has included all comments received through July 6, 2021, and responses to comments in Appendix 2 of this final version of the plan (Revision 1). Corrections and changes to the plan are also identified in Appendix 2. No changes to the network or to network operation are proposed in response to the comment presented in Appendix 2; only additional background information related to one of the industrial monitoring networks has been added in this final version of the plan in Section 2.1.2.

Introduction

The Missouri Department of Natural Resources operates an extensive network of ambient air monitors to comply with the Clean Air Act and its amendments. The Ambient Air Quality Monitoring Network for Missouri includes State and Local Air Monitoring Stations (SLAMS), Special Purpose Monitors (SPM) and a National Core (NCore) monitoring site consistent with requirements in federal regulation in Title 40, Code of Federal Regulations, Part 58 (40 C.F.R. § 58).

40 C.F.R. § 58.10 requires states to submit an annual monitoring network plan including any proposed network changes to EPA. 40 C.F.R. § 58.10 requires the plan to include a statement of whether the operation of each monitor meets the requirements of appendices A, B, C, D and E of 40 C.F.R. § 58 where applicable. All of the monitors in the Missouri air monitoring network, including those operated by the State and those operated by industries under state review meet the applicable requirements of 40 C.F.R. § 58. Any changes to the SLAMS requires approval by the EPA Regional Administrator.

The plan must contain the following information for each monitoring station in the network; (See Appendix 1 and the body of this document):

1. The Air Quality System (AQS) site identification number for existing stations
2. The location, including the street address and geographical coordinates, for each monitoring station
3. The sampling and analysis method used for each measured parameter
4. The operating schedule for each monitor
5. Any proposal to remove or move a monitoring station within a period of 18 months following the plan submittal

6. The monitoring objective and spatial scale of representativeness for each monitor
7. The identification of any sites that are or are not suitable for comparison against the annual PM_{2.5} National Ambient Air Quality Standard (NAAQS)
8. The metropolitan statistical area, core-based statistical area, combined statistical area or other area represented by the monitor

A network assessment is required every five years, and the most recent one was completed in June 2020.

Network Design

Federal regulation (40 C.F.R. Part 58) establishes the design criteria for the ambient air monitoring network. The network is designed to meet three general objectives:

1. Provide air pollution data to the public in a timely manner
2. Support compliance with ambient air quality standards and emissions strategy development
3. Support air pollution research studies

Specific objectives for the monitoring sites are:

1. To determine the highest pollution concentrations in an area
2. Measure typical concentrations in areas of high population density
3. Determine the impact of significant sources or source categories
4. Determine general background levels
5. Determine the extent of regional pollutant transport among populated areas

Minimum site requirements, based on Core Based Statistical Area (CBSA) population, are provided for ozone (O₃), sulfur dioxide (SO₂), carbon monoxide (CO), nitrogen dioxide (NO₂), airborne particulate matter with aerodynamic diameter equal to or smaller than 10 micrometers (PM₁₀), and airborne particulate matter with aerodynamic diameter equal to or smaller than 2.5 micrometers (PM_{2.5}).

40 C.F.R. § 58 Appendix E establishes the specific requirements for monitor/probe siting to ensure the ambient data represents the stated objectives and spatial scale. The requirements are pollutant/scale specific. Periodically, Department staff visit and evaluate each monitoring site to ensure compliance with the requirements of 40 C.F.R. § 58 Appendix E. Additional details concerning the sites are available in Appendix 1.

Unanticipated Network Modifications

Changes to the monitoring network may occur outside the annual monitoring network planning process due to unforeseen circumstances including, but not limited to, severe weather, natural events, changes in property ownership, changes in federal funding, or changes in funding available from air emission fees from industrial facilities. The Department will communicate any changes to the network that result from conditions outside the state's logistical control and not

included in the current monitoring network plan to EPA Region 7 staff and identify such changes in the subsequent annual monitoring network plan.

Special Purpose Monitors

A monitor is designated as a SPM consistent with the regulatory definition in 40 C.F.R. § 58.20 (a): “An SPM is defined as any monitor included in an agency's monitoring network that the agency has designated as a special purpose monitor in its annual monitoring network plan and in AQS, and which the agency does not count when showing compliance with the minimum requirements of this subpart for the number and siting of monitors of various types.”

SPMs may be established for many different purposes, including but not limited to NAAQS compliance evaluation, air quality research and characterization, air quality investigation and monitoring method evaluation.

The Department includes SPMs in the annual monitoring network plan required by 40 C.F.R. § 58.10. The Department installs or approves the installation of these monitors consistent with 40 C.F.R. § 58.20 (f). In addition, the Department removes, or allows removal of these monitors, following federal guidelines, which are different for SPMs than for SLAMS. There is more description of each SPM later in the document. The Missouri Monitoring Network Description, Appendix 1, identifies which monitors are SPM and which are SLAMS.

Industrial Monitors

Ambient air monitoring sites classified as Industrial in this plan indicate the ambient air monitoring at that site is being conducted by the industrial source or its contractor under an approved industrial monitoring Quality Assurance Project Plan (QAPP) and departmental Quality Management Plan (QMP). Department staff conducts quality assurance audits of these monitoring sites consistent with the approved QAPP.

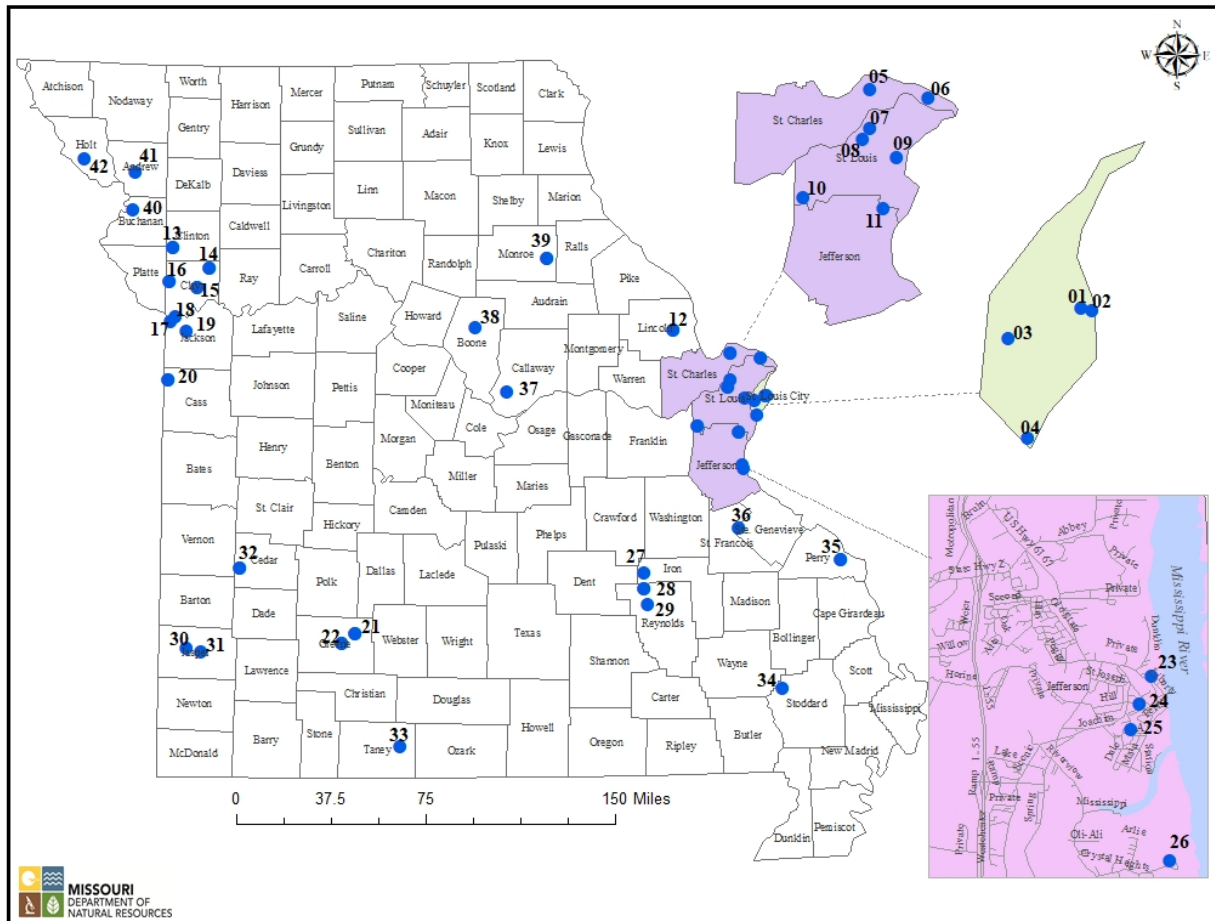
Missouri oversees ambient air monitoring sites operated by industrial sources for NAAQS compliance. The Department has incorporated these Industrial sites in the annual Monitoring Network Plans. Currently, some industrial monitoring sites for lead and SO₂ are incorporated in the ambient air monitoring network.

Some industrial lead monitoring sites are classified in AQS as non-regulatory due to the sites transitioning to non-ambient status. However, the Department has required continued monitoring at these locations in agreements with the industrial source for trends analysis or other purposes.

2021 Ambient Air Monitoring Network, State Sites

The 2021 statewide monitoring network is shown in the following map and table.

2021 Missouri State Monitoring Network



Legend (State's Monitoring Network)

St. Louis Area

Site#	Site Name	Parameter Monitored
01	Blair Street [^]	PM ₁₀ , PM _{2.5} , PM _{2.5} (Spec), PMCoarse, PM ₁₀ -LC, PM ₁₀ -Pb, O ₃ , SO ₂ , NO ₂ , NO _y , NO _x , NO, CO, Carbonyls, PAHs, VOCs, Air Toxics, Carbons, PM ₁₀ Metals, Prec, WS, WD, OT, IT, SR, BP, RH, PAMS
02	Branch Street	PM ₁₀ , PM _{2.5} , WS, WD, OT, IT, BP, RH
03	Forest Park	PM _{2.5} , PMCoarse, PM ₁₀ -LC, NO ₂ , NO _x , NO, CO, BC, WS, WD, OT, IT, SR, BP, RH, Prec
04	South Broadway	PM ₁₀ , PM _{2.5} , IT, BP, RH
05	Orchard Farm	O ₃ , IT
06	West Alton	O ₃ , WS, WD, OT, IT, SR
07	Rider Trail I-70	NO ₂ , NO _x , NO, WS, WD, OT, IT, SR, Prec, BP SO ₂ (RES)
08	Maryland Heights	O ₃ , IT
09	Ladue	PM _{2.5} , OT, IT, BP, RH
10	Pacific	O ₃ , IT
11	Arnold West	PM ₁₀ , PM _{2.5} , PM _{2.5} (Spec), IT, O ₃ , WS, WD OT, IT, BP, RH
12	Foley West*	O ₃ , IT

Kansas City Area

Site#	Site Name	Parameter Monitored
13	Trimble	O ₃ , IT
14	Watkins Mill	O ₃ , IT
15	Liberty	PM _{2.5} , O ₃ , OT, IT, SR, BP, RH
16	Rocky Creek	O ₃ , IT
17	Troost	PM _{2.5} , PM ₁₀ , SO ₂ , NO ₂ , NO _x , OT, IT
18	Front Street	PM ₁₀
19	Blue Ridge I-70	PM _{2.5} , PMCoarse, PM ₁₀ -LC, NO ₂ , NO _x , NO, CO, BC, WS, WD, OT, IT, SR, BP, RH, Prec
20	Richards Gebaur-South	PM _{2.5} , PM ₁₀ -LC, O ₃ , WS, WD, OT, IT, BP, RH

Springfield Area

Site#	Site Name	Parameter Monitored
21	Fellows Lake	O ₃ , IT
22	Hillcrest High School	O ₃ , PM ₁₀ , PM _{2.5} , OT, IT, BP, RH

Herculaneum Area

Site#	Site Name	Parameter Monitored
23	Sherman	Pb
24	Dunklin High School	Pb
25	Mott Street	Pb, SO ₂
26	Ursuline North	Pb

New Lead Belt Area

Site#	Site Name	Parameter Monitored
27	Buick NE	Pb, SO ₂ , WS, WD, IT
28	Oates	Pb
29	Fletcher	Pb

Outstate Area

Site#	Site Name	Parameter Monitored
30	Alba	O ₃ , IT
31	Carthage	PM ₁₀ , WS, WD, IT
32	El Dorado Springs	PM _{2.5} , O ₃ , WS, WD, OT, IT, BP, RH
33	Hercules	PM _{2.5} (Spec)-IMPROVE
34	Glades	
35	Mingo	PM _{2.5} (Spec)-IMPROVE
36	Farrar	O ₃ , IT
37	Bonne Terre	O ₃ , IT, SR
38	New Bloomfield	O ₃ , IT
39	Finger Lakes	O ₃ , IT
40	Mark Twain State Park	PM ₁₀ , SO ₂ , NO ₂ , NO _x , NO, O ₃ , WS, WD, IT
41	St. Joseph Pump Station	PM ₁₀ , PM _{2.5} , PM ₁₀ -LC, WS, WD, OT, IT, RH
42	Savannah Forest City, Exide	O ₃ , IT, Pb

*Relocated from former Foley site
[^]PM₁₀-Pb at Blair is NAAQS excluded

Acronyms

PM ₁₀	Particulate Matter (Diameter size ≤10 micrometer)
PM _{2.5}	Particulate Matter (Diameter size ≤2.5 micrometer)
PMCoarse	Particulate Matter (Diameter size between 2.5 and 10 micrometer)
Spec	Speciation
SO ₂	Sulfur Dioxide
NO ₂	Nitrogen Dioxide
NO	Nitric Oxide
NO _y	Reactive Oxides of Nitrogen
NO _x	Oxides of Nitrogen
O ₃	Ozone
CO	Carbon Monoxide
Pb	Lead (High Volume)
BC	Black Carbon
Prec	Precipitation
WS	Resultant Wind Speed
WD	Resultant Wind Direction
OT	Outside Temperature
IT	Inside Temperature
SR	Solar Radiation
BP	Barometric Pressure
RH	Relative Humidity
IMPROVE	Interagency Monitoring of Protected Visual Environment (Regional Haze)
RES	Research
PAMS	Photochemical Assessment Monitoring Station

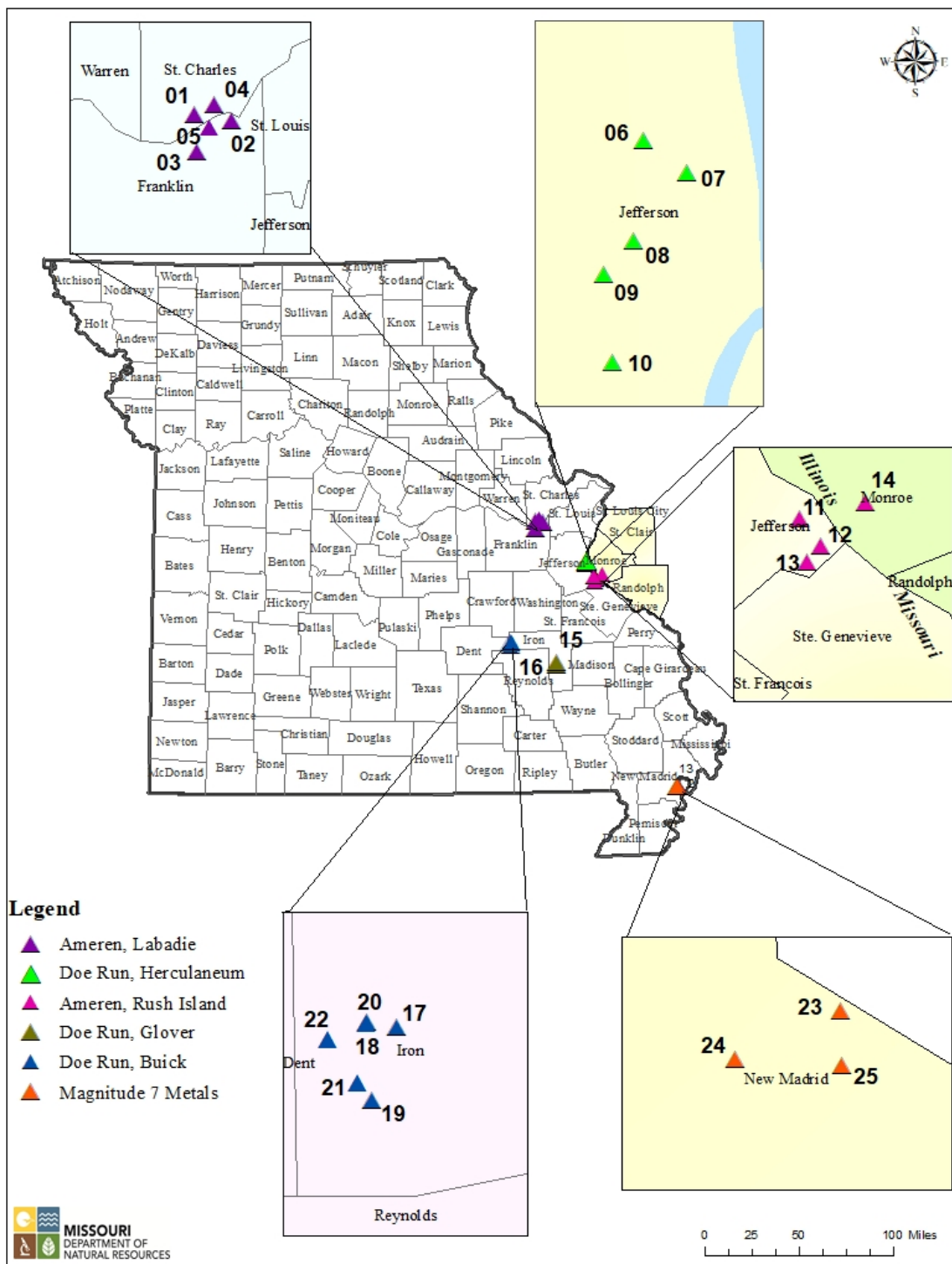
Notes:

1. The acronym PM₁₀-LC is also commonly referred to as PM_{10c} when collected with a low volume sampler consistent with appendix O to Part 50. PM₁₀-LC means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers where the concentration is reported at local conditions of ambient temperature and barometric pressure. PM₁₀-LC is used in this document to describe any continuous or filter based PM₁₀ low volume measurement concentration that is reported at local conditions of ambient temperature and barometric pressure.
2. PM₁₀ means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers where the concentration is adjusted to EPA reference conditions of ambient temperature and barometric pressure (25 °C and 760 millimeters of mercury or STP).
3. PMCoarse is also frequently referred to as PM_{10-2.5}.

2021 Ambient Air Monitoring Network, Industrial Sites

Monitoring sites operated by industries are shown in the following map and listed in the following table.

2021 Missouri Industry Monitoring Networks



Legend (Industry Monitoring Network)

Ameren, Labadie Energy Center

Site#	Site Name	Parameter Monitored
01	Northwest	SO ₂ , (WS, VWS, WD, OT, σ_{ϕ} , σ_{θ} , RH)^a
02	Valley	SO ₂ , (WS, VWS, WD, OT, SR, BP, RH, Prec, σ_{ϕ} , σ_{θ})^a
03	Southwest	SO ₂
04	North	SO ₂
05	Labadie Plant	SODAR (WS, WD, OT, σ_{θ} , σ_{ϕ})^a

Doe Run, Herculanum

Site#	Site Name	Parameter Monitored
06	Dunklin	Pb
07	Broadway	(WS, WD, OT, SR, BP, RH, Prec, σ_{θ})^a
08	Mott Street	Pb
09	North Cross	Pb
10	Church Street*	Pb

Acronyms

SO ₂	Sulfur Dioxide
Pb	Lead (High Volume)
σ_{θ}	Sigma Theta (Standard Deviation of Horizontal Wind Direction)
WS	Resultant Wind Speed
WD	Resultant Wind Direction
OT	Outside Temperature
SR	Solar Radiation
BP	Barometer Pressure
RH	Relative Humidity
σ_{ϕ}	Sigma Theta (Standard Deviation of the Vertical Wind Speed)
Prec	Precipitation
VWS	Vertical Wind Speed

Ameren, Rush Island Energy Center

Site#	Site Name	Parameter Monitored
11	Weaver-AA	SO ₂
12	Johnson Tall Tower	(WS, VWS, WD, OT, σ_{ϕ} , σ_{θ})^a
13	Natchez	SO ₂
14	Fults, IL	SO ₂ , (WS, VWS, WD, OT, SR, BP, RH, Prec, σ_{ϕ} , σ_{θ})^a

^a	Metrological Data is not submitted to the EPA Air Quality (AQS) Database
[^]	Regulatory Dispersion Modeling Grade Parameters
*	Non-Ambient Monitor

Doe Run, Glover

Site#	Site Name	Parameter Monitored
15	Post Office #2*	Pb
16	Big Creek*	Pb

Doe Run, Buick

Site#	Site Name	Parameter Monitored
17	Buick NE	Pb
18	Buick North#5*	Pb
19	Buick South#1*	Pb, (WS, WD, OT, SR, BP, RH, Prec, σ_{θ}) ^{^a}
20	Hwy 32 Northeast	SO ₂
21	West Entrance	SO ₂
22	County Road 75	SO ₂

Magnitude 7 Metals

Site#	Site Name	Parameter Monitored
23	Site #1	SO ₂
24	Site #2	SO ₂
25	Site #3	SO ₂ , (WS, WD, OT)

Monitoring Network and Proposed Changes

1. Lead (Pb) Monitoring Network

Changes to airborne lead (Pb) requirements in 2010 require monitoring lead sources emitting 0.50 tons per year (tpy) or more, revised from the previous requirement for monitoring sources emitting one ton per year or more. (All airports in Missouri are exempt from this requirement.) Review of current 2019 emission data did not identify any new sources emitting greater than 0.50 tpy. The Department will continue to review emission data for new sources in the future.

1.1 Doe Run Operated Sites

Doe Run operates lead monitoring sites in the vicinity of its industrial facilities in Herculaneum, Glover, and Boss. Operation of some of these sites is required by consent judgments or agreements with the Department, and operation of other sites is voluntary.

Doe Run Herculaneum also operates one 10 meter tower meteorological monitoring site as per language set forth under the 2011 Consent Judgment. Doe Run Herculaneum discontinued the 40 meter tower at Broad Street as per the Consent Judgment.

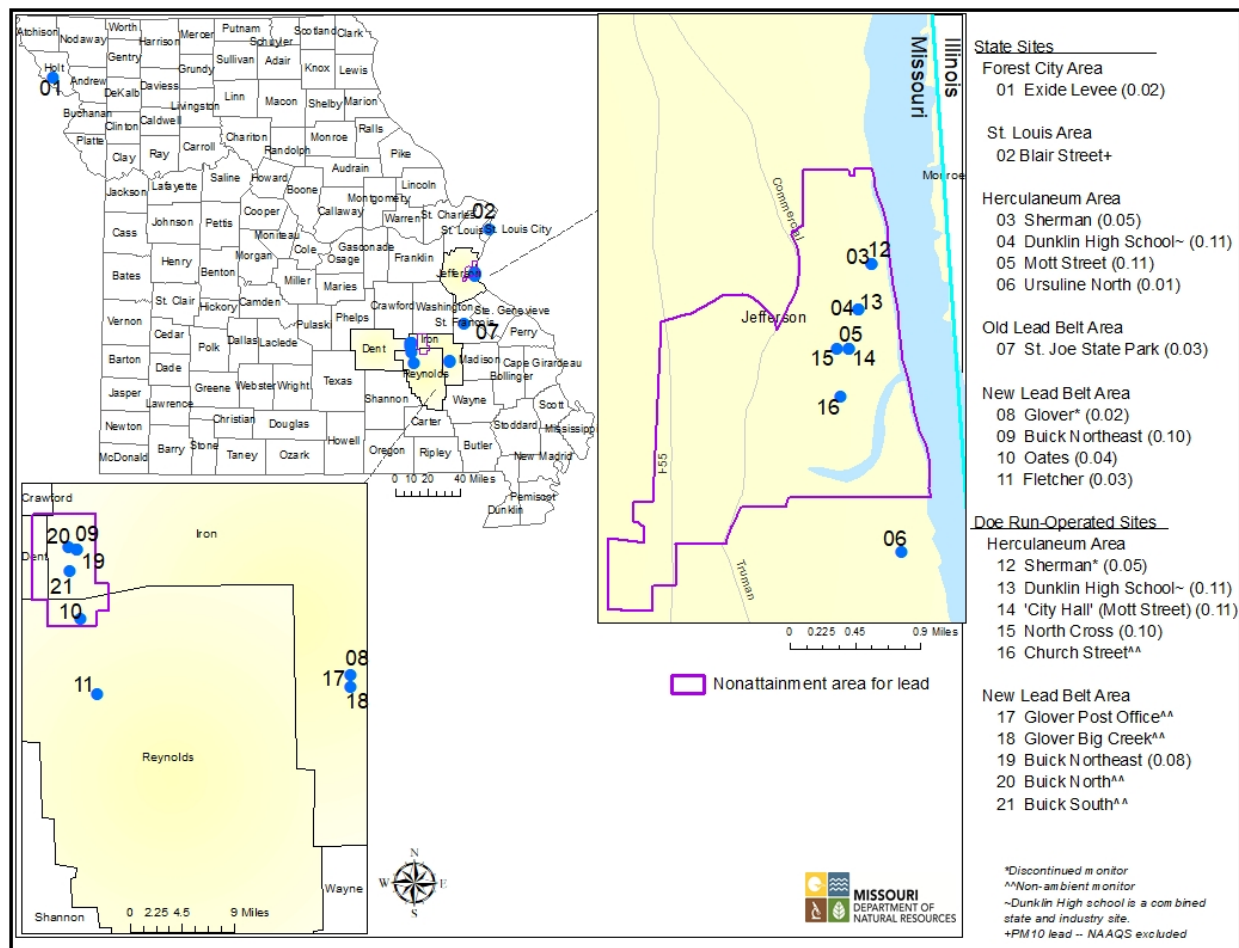
- (a) Doe Run monitoring activities are currently designated as three separate Primary Quality Assurance Organizations (PQAO): Doe Run Buick, 1288; Doe Run Glover, 1289; and Doe Run Herculaneum, 1290. The Department proposed in the 2020 Monitoring Network Plan to combine these into a single PQAO (1290) effective Jan. 1, 2021. Department staff informed EPA Region 7 staff of this proposed change by email in March 2020, and EPA staff requested by email in April 2020 that the proposed change be included in the 2020 Monitoring Network Plan. As of this writing, EPA has not yet acted on this request.

1.2 St. Joe State Park Monitoring Site

The St. Joe State Park SPM site was intended to monitor airborne lead concentrations during remediation activities involving old lead mining waste in the Federal Mine tailings. The bulk of the remediation activity was completed as of late July/early August 2014. The three-month rolling average has not exceeded the lead standard, $0.15 \mu\text{g}/\text{m}^3$, since the site began monitoring lead on July 1, 2010. The highest three-month rolling average airborne lead concentration at that site was $0.14 \mu\text{g}/\text{m}^3$ in July-September 2011. This elevated lead concentration was attributable to remediation activities near the monitor. During 2017 to 2020, the three-month average lead concentration has not exceeded $0.03 \mu\text{g}/\text{m}^3$. Because remediation activities in St. Joe State Park are now complete, and because the lead standard has never been exceeded at this site, monitoring at this site may be discontinued before the end of 2021.

The 2021 lead monitoring network is shown in the following map.

**2021 Missouri Lead Monitoring Network*, NAAQS=0.15µg/m³ (3 month).
(Numbers in parenthesis are 2018-2020 Design Values)**



*Monitoring at the St. Joe State Park site is being discontinued sometime after June 30, 2021. No other changes are proposed in this plan.

2. Sulfur Dioxide (SO₂) Monitoring Network

EPA reviewed the SO₂ standard and announced in March 2019 the standard would remain at 75 parts per billion (ppb), established in 2010. The [*2011 Monitoring Network Plan*](#) identified the minimum network monitoring required by the Population Weighted Emissions Index (PWEI). This analysis was updated using the most recent population and emission data available, 2020 estimated population data from the United States Census Bureau and 2017 National Emission Inventory (NEI) emissions data. Results are summarized in the following table. The required numbers of monitoring sites based on the PWEI are two sites in the St. Louis CBSA, and one site in the Kansas City CBSA. No other sites are required in Missouri CBSAs. This requirement is met in the St. Louis area by the Blair Street site in Missouri and the East St. Louis site in Illinois and in the Kansas City area by the Troost site. The requirements are exceeded by including the Wood River site in Illinois, the Herculaneum site in Missouri and the JFK site in Kansas. The East St. Louis site is expected to continue based on communication received from the Illinois Environmental Protection Agency.

In addition to the minimum network requirements detailed above, the Department oversees several industrial SO₂ monitoring sites and one additional site, all detailed in the following sections.

Population Weighted Emission Index (PWEI) Summary

Area	Estimated 2020 Population	2017 SO2 Emissions (tpy)	PWEI	Required Number of SO2 Monitors
Kansas City	2,173,212	9,703.06	21,087	1
St. Louis	2,805,473	67,179.86	188,471	2
Fayetteville-Springdale-Rogers	571,534	2,450.66	1,401	0
Springfield	475,220	3,477.18	1,652	0
Joplin	180,099	1,244.75	224	0
Columbia	182,991	1,560.22	286	0
Jefferson City	150,198	773.09	116	0
St. Joseph	122,556	561.49	69	0
Cape Girardeau	97,120	714.96	69	0
Maryville	21,743	165.46	4	0
Warrensburg	54,219	65.01	4	0
Marshall	22,858	58.77	1	0
Sedalia	42,490	195.16	8	0
Branson	88,569	709.18	63	0
Kirksville	29,933	150.29	4	0
Moberly	24,409	16,556.63	404	0
Lebanon	35,895	187.95	7	0
Mexico	24,835	48.62	1	0
Fort Leonard Wood	52,709	128.70	7	0
Rolla	44,414	172.68	8	0
West Plains	40,262	293.39	12	0
Fort Madison-Keokuk	57,732	998.13	58	0
Quincy	74,593	895.05	67	0
Hannibal	38,722	859.58	33	0
Farmington	66,485	168.78	11	0
Poplar Bluff	42,178	179.61	8	0
Sikeston	38,288	4,746.17	182	0
Kennett	28,878	42.02	1	0

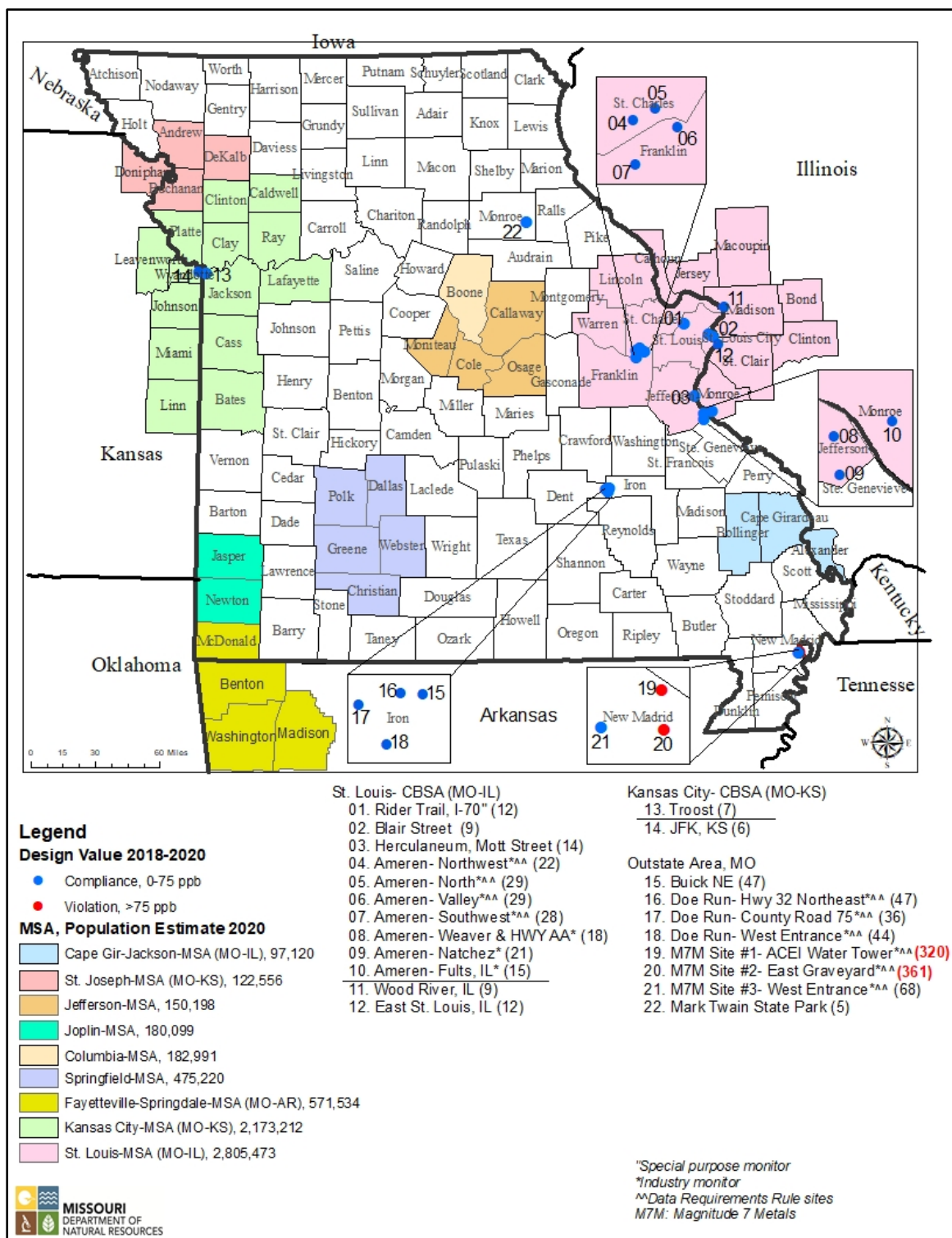
$PWEI = \text{population} * SO_2(\text{tpy}) / 1,000,000$

$PWEI \geq 1,000,000$: 3 monitors

$1,000,000 > PWEI \geq 100,000$: 2 monitors

The Department's 2021 SO₂ monitoring network is shown in the following map.

**2021 Missouri Sulfur Dioxide (SO₂) Monitoring Network*, NAAQS=75 ppb (1 hour).
(Numbers in parentheses are 2018-2020 Design Values)**



*No changes to the SO₂ network are proposed in this plan.

In 2015, EPA finalized the SO₂ Data Requirements Rule (DRR). This rule required air agencies to characterize air quality, either by monitoring or modeling, around sources that emit 2,000 tons per year (tpy) or more of SO₂.

Sources monitoring due to the DRR include: Ameren Labadie Energy Center, Magnitude 7 Metals (formerly Noranda Aluminum), and Doe Run Buick Resource Recycling Facility. In addition, Ameren Rush Island Energy Center is conducting monitoring on an accelerated schedule (compared to the DRR timeline) based on an agreement with the Department associated with the Jefferson County nonattainment plan submitted to EPA in May 2015. The monitoring of these sources is discussed in the following sections.

The industrial sources are conducting the monitoring, but they are conducting it in accordance with the SLAMS requirements in 40 C.F.R. Part 58. The Department reviewed and approved the siting of the monitors based on federal regulations. To meet the requirements of the DRR, these monitors will need a minimum of three years of monitoring data, which is now complete. However, the sources cannot discontinue monitoring thereafter without EPA approval based on the requirements of 40 C.F.R. § 51.1203(c) (3) or 40 C.F.R. § 58.14.

2.1 Industrial SO₂ and Meteorological Monitoring near the Labadie and Rush Island Energy Centers

Ameren operates two SO₂ ambient Air Monitoring networks around the Labadie and Rush Island power plants. These monitors are classified as industrial SO₂ monitors. The following sections describe the current status of the Labadie and Rush Island SO₂ monitoring networks.

2.1.1 Labadie Energy Center

Two industrial SO₂ ambient air monitoring sites and a meteorological monitoring station began operation in April 2015, in the area around the Ameren Labadie Energy Center, located at 226 Labadie Power Plant Road in Franklin County. Two additional industrial SO₂ monitoring sites southwest and north of the Labadie Energy Center were installed and began operation on January 1, 2017. In addition, meteorological monitoring using a 10 meter tower was added at the Northwest site. A sound detection and ranging (SODAR) instrument was initially located at the Valley site, relocated to the Northwest site in February 2017, and relocated again to the Labadie plant site in August 2017. These monitoring sites (see the following table) are operated by Ameren under a Department-approved QAPP. The rationale for site selection based on modeling results is discussed extensively in the 2015 and 2016 Monitoring Network Plans. These monitors have not shown violation of the NAAQS. EPA proposed redesignation of the area in St. Charles and Franklin Counties around this facility from unclassifiable to attainment in September 2020, but the redesignation has not yet been finalized as of this writing (April 2021).

Summary of Labadie Area Industrial Monitoring Stations:

Monitoring Objective: Source Oriented

Spatial Scale of representativeness: Middle Scale (100 square meters [m²] to 0.5 square kilometer [km²])

Labadie Northwest -SO₂, 10 Meter Meteorological Station. (Latitude: 38.5818 Longitude: -90.865528)

Labadie Valley -SO₂, 10 Meter Meteorological Station. (Latitude: 38.572522 Longitude: -90.796911)

Labadie Southwest -SO₂, (Latitude: 38.52825 Longitude: -90.86301)

Labadie North -SO₂, (Latitude: 38.59557 Longitude: -90.82864)

Labadie Plant -SODAR, (Latitude: 38.54860 Longitude -90.83750)

2.1.2 Rush Island Energy Center

On March 23, 2015, the Department and Ameren entered into a consent agreement (see Appendix 3 of the 2015 Monitoring Network Plan) that included Ameren installing and operating an SO₂ monitoring network around the Rush Island Energy Center under Department oversight. The siting of these monitors was consistent with the technical process described in the SO₂ DRR. The Rush Island monitoring network design was based on evaluation of dispersion modeling, as described in the 2015 and 2016 Monitoring Network Plans. This network began operation in December 2015. These monitors have not shown violation of the NAAQS.

The Department requested in February 2016 that EPA make a clean data determination for the Jefferson County area, and EPA published a clean data determination for the area on September 13, 2017. The Department submitted to EPA a redesignation request and maintenance plan in December 2017 and a maintenance plan supplement in April 2021. An EPA letter dated August 10, 2020, indicates that it is "a mutual priority to redesignate this area," and EPA proposed redesignation of the Jefferson County SO₂ nonattainment area to attainment of the 2010 SO₂ standard on June 29, 2021 (86 F. R. 34177).

Summary of Rush Island area Industrial Monitoring Stations:

Monitoring Objective: Source Oriented

Spatial Scale of representativeness: Middle Scale (100 m² to 0.5 km²)

Weaver-AA -SO₂. (Latitude: 38.144529 Longitude: -90.304726)

Natchez -SO₂, (Latitude: 38.10525 Longitude: -90.29842)

Fults, IL, -SO₂, 10 Meter Meteorological Station (Latitude: 38.15908 Longitude: -90.22728)

Johnson Tall Tower -Meteorological Station Only, anemometers at 62.5 meter (m) and 132.5 m levels (Latitude: 38.11999 Longitude: -90.28214)

2.2 Industrial SO₂ and Meteorological Monitoring near the Doe Run Buick Resource Recycling Facility

The Doe Run Company began SO₂ monitoring at three sites in the area around the Buick Resource Recycling Facility near Boss starting January 1, 2017. Meteorological monitoring is also conducted at the Buick South lead monitoring site, south of the facility. These sites are operated under a Department-approved QAPP, which includes performance evaluations (audits) by Department staff. Locations of these ambient SO₂ monitoring sites was determined on the

basis of air quality modeling of the impact of facility emissions, as described in the 2016 Monitoring Network Plan. These monitors have not shown violation of the NAAQS, and EPA announced designation of Iron County, where this facility is located, as attainment/ unclassifiable in December 2020 (effective April 2021).

Summary of Doe Run Buick area Industrial Monitoring Stations:

Monitoring Objective: Source Oriented

Spatial Scale of representativeness: Middle Scale (100 m² to 0.5 km²)

West Entrance -SO₂. (Latitude: 37.63211 Longitude: -91.13565)

County Road 75 -SO₂, (Latitude: 37.64876 Longitude: -91.14890)

Hwy. 32 Northeast (Former PSD site) -SO₂, (Latitude: 37.65319 Longitude: 91.12795)

2.3 Industrial SO₂ and Meteorological Monitoring near the Magnitude 7 Metals (formerly Noranda Aluminum) Facility

Magnitude 7 Metals is conducting SO₂ monitoring at three sites and meteorological monitoring at one site in the area around its facility near New Madrid. Monitoring at these sites started in January 2017. These sites are operated under a Department-approved QAPP, which includes performance evaluations (audits) by Department staff. Locations for these ambient SO₂ monitoring sites were determined on the basis of air quality modeling of the impact of facility emissions, and the potential area for meteorological monitoring was determined on the basis of an analysis by a Department meteorologist. These evaluations are described in the [2016 Monitoring Network Plan](#).

Two of the Magnitude 7 Metals sites are in violation of the NAAQS based on 2017 through 2019 data. In December 2020 (effective April 2021), EPA announced designation of an area surrounding the facility as a nonattainment area for the SO₂ NAAQS and the remainder of New Madrid County as attainment/ unclassifiable.

Summary of Magnitude 7 Metals area Industrial Monitoring Stations:

Monitoring Objective: Source Oriented

Spatial Scale of representativeness: Middle Scale (100 m² to 0.5 km²)

Site 1 -SO₂, (Latitude: 36.51361 Longitude: -89.56111)

Site 2 -SO₂, (Latitude: 36.50861 Longitude: -89.56083)

Site 3 -SO₂ and Meteorology, (Latitude: 36.50889 Longitude: -89.57083)

2.4 Rider Trail I-70 Site

The Department added an SO₂ monitor, designated as SPM, to the existing Rider Trail I-70 monitoring site in May 2016 to evaluate SO₂ levels in the general area. Since the site was installed the annual fourth highest daily one-hour SO₂ concentration has ranged from 12 to 15 ppb.

Since the monitor is located in the near-roadway environment, and there are several SO₂ sources in the area, the Department initially classified the spatial scale of representativeness of the SO₂ measurements as middle-scale. This classification may be reevaluated if trends in the monitoring

data and other analysis warrant increasing the spatial scale of representativeness. The monitoring objective for this monitor is to measure population exposure.

3. National Air Toxics Trends Stations (NATTS), and Other Non-Criteria Pollutant Special Purpose Monitoring

3.1 National Air Toxics Trends Stations Monitoring

Routine NATTS monitoring will continue at Blair Street as described in the NATTS work plan.

3.2 Black Carbon

Black Carbon is monitored with an aethalometer as part of the NATTS program at Blair Street. Also, as part of the condition of receiving one time section 103 grant funds to implement sites for the near-roadway monitoring network, the Department will continue to conduct special purpose PM_{2.5} black carbon monitoring at the Forest Park and Blue Ridge I-70 near- roadway NO₂ sites using aethalometers.

4. PM_{2.5} Monitoring Network

4.1 PM_{2.5} SLAMS Network

The minimum monitoring requirement, based on population and historic PM_{2.5} measurements (40 C.F.R. § 58 Appendix D) requires three sites in St. Louis (because of PM_{2.5} concentrations measured on the Illinois side) and two sites in Kansas City. The St. Louis requirement is met by four Missouri sites plus three Illinois sites in the St. Louis CBSA (in addition to the near-road sites). The Kansas City requirement is met by three Missouri sites plus three Kansas sites in the Kansas City CBSA (in addition to the near-road site).

There is only one PM_{2.5} monitor in Missouri that is not applicable for comparison to the annual NAAQS. The Branch Street site is a middle-scale site focused on a group of sources in the industrial riverfront area and is not representative of neighborhood or larger spatial scale for PM_{2.5} monitoring. The PM_{2.5} monitors deployed to collocate with the near-roadway NO₂ monitors are micro-scale monitors, but EPA has indicated in 40 C.F.R. § 58 Appendix D, 4.7.1(c)(2) that “In many situations, monitoring sites that are representative of microscale or middle-scale impacts are not unique and are representative of many similar situations. This can occur along traffic corridors or other locations in a residential district. In this case, one location is representative of a number of small scale sites and is appropriate for evaluation of long-term or chronic effects.” EPA may consider these monitors representative of larger areas near roadways and comparable to the annual PM_{2.5} NAAQS consistent with 40 C.F.R. § 58.30.

The requirement for regional background PM_{2.5} monitoring is met by the Hercules Glades and Mingo Interagency Monitoring of Protected Visual Environments (IMPROVE) sites. In addition to these sites, the Arnold West and El Dorado Springs sites also serve to monitor transport into eastern and western Missouri urban areas respectively.

TEOM-1405-DF and TEOM-1405-F instruments are the primary instruments being used in the state network for PM_{2.5} measurement. EPA has also designated the TEOM-1405-DF, operating with firmware version 1.70 and later, as a Federal Equivalent Method (FEM) for PM₁₀ and PM_{10-2.5}, announced in the [Federal Register](#) on Nov. 12, 2013. However, the Department does not report data from the PM₁₀ FEM channels of the TEOM-1405-DF instruments to AQS.

Network PM_{2.5} 1405-DF FEM/FRM collocation requirements are satisfied at the Blair Street NCore site in St. Louis. The following figure shows FRM/FEM comparability statistics (Class III performance criteria of 40 C.F.R. Part 53) for the TEOM-1405-DF (EQPM-0609-182) operating at the Blair Street, St. Louis site. The additive and multiplicative bias meets the Class III performance criteria of 40 C.F.R. Part 53.

The Department is continuing in the process of obtaining retrofits of the 1405-DF instruments to 1405-Fs. To date (April 2021) 1405-F instruments are being operated at nine sites; see the table at the end of this section. One additional site (Richards Gebaur South) is planned to be converted to 1405-F operation by September 2021.

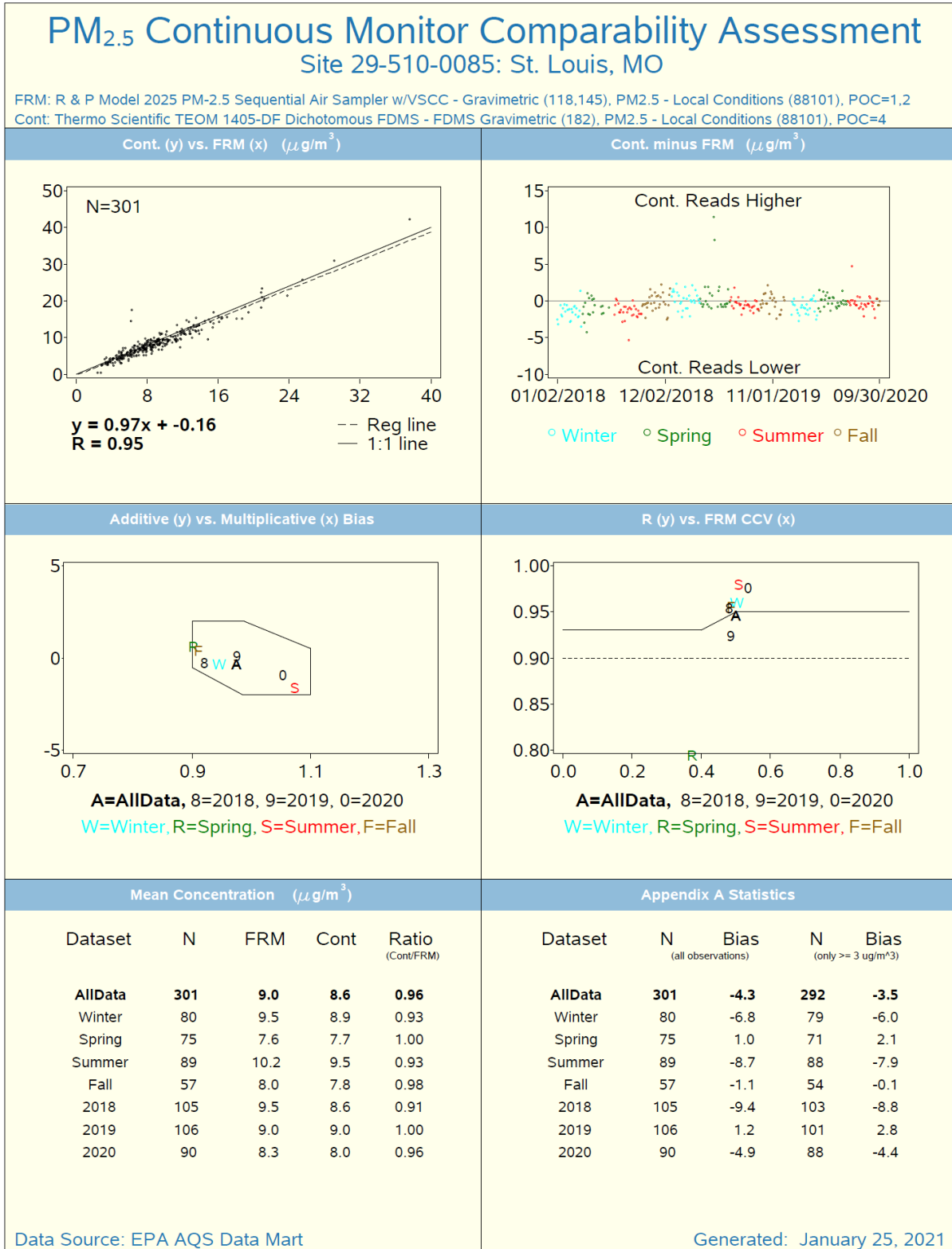
The “Revisions to Ambient Monitoring Quality Assurance and Other Requirements; Final Rule,” (*Federal Register*, volume 81, number 59, March 28, 2016), effective April 27, 2016, removed the requirement for collocated monitoring for PM_{10-2.5} at NCore sites from 40 C.F.R. Part 58. Therefore, operation of the collocated set of filter samplers used for measurement of PM_{10-2.5} was discontinued at the Blair Street site. At the same time, the TEOM-1405-DF FEM was re-designated as the primary PM_{2.5} instrument at this site. The FRM PM_{2.5} sampler at Blair Street was re-designated as the collocated reporting FRM sampler for the state network, and also provides FRM PM_{2.5} for the NCore site. This change allowed the collocated FRM PM_{2.5} sampler at the Troost site to be discontinued. Effective July 1, 2018, PM_{10-2.5} is now being reported only at the Blair Street NCore site and the Forest Park and Blue Ridge I-70 near road sites. The current PM_{2.5} network is summarized in the table entitled “2020 Missouri PM_{2.5} Monitoring Network” later in this section.

Two TEOM-1405-F instruments are operated at the St. Joseph Pump Station site, one designated as primary, and one as collocated to satisfy the collocation requirement for that FEM method. The Department will continue to operate a 1405-F PM_{2.5} instrument and a collocated FRM at Ladue.

The Department is also operating a Teledyne API T640X instrument at Blair Street and one at Troost as a special purpose monitor for PM₁₀ measurement and to evaluate this instrument, which measures airborne particulate concentration using light scattering, for possible future use in the PM_{2.5} network. When two T640X instruments were operated at Blair Street, they showed excellent agreement. Therefore, in order to further evaluate the instrument, one of the T640X instruments at Blair Street was relocated to the Branch Street site in July 2020 in order to evaluate its performance in a location with a higher atmospheric particulate concentration. The Department plans to procure, install, and operate an additional T640X instrument at the Hillcrest High School site in Springfield by September 2021, in order to continue evaluation of the instrument in different regions of the state.

The Department also plans to install a Teledyne API T640 provided by EPA at the Forest Park site in St. Louis and operate it for about one year. Data from that instrument, if it becomes available, with a time resolution as short as one minute, and time-resolved data from other air quality and meteorological instruments, including the TEOM-1405-DF, will be provided to EPA. The data will be used in non-parametric trajectory analysis (NTA), which uses high time resolution PM_{2.5} concentrations, other air quality data and wind data to help to identify source impacts. Time-resolved data from the Teledyne API T640X and other instruments at the Troost site in Kansas City are also expected to be provided for this project.

FRM/FEM Comparability Assessment
Blair Street, St. Louis, 2018-2020
 from EPA PM_{2.5} Continuous Monitor Comparability Assessments



4.2 PM_{2.5} Chemical Speciation Network (CSN)

PM_{2.5} speciation sampling is currently conducted at two locations: Blair Street in St. Louis and Arnold West. The sampling schedule at Arnold West was modified to every six days in February 2015. Sampling is done every three days at Blair Street. The two aging samplers used for CSN sample collection at Blair Street will be replaced in late 2021 or 2022 using Section 103 funds if available as described below.

4.3 PM_{2.5} Section 103 Federal Funding

The Department is not proposing any changes to the PM_{2.5} monitoring network other than replacement of aging equipment. However, this plan is contingent on EPA providing adequate grant funds to operate and maintain the PM_{2.5} monitoring network.

40 C.F.R. § 58.14 (c) indicates “State, or where appropriate, local agency requests for SLAMS monitor station discontinuation, subject to the review of the Regional Administrator, will be approved if any of the following criteria are met and if the requirements of appendix D to this part, if any, continue to be met. Other requests for discontinuation may also be approved on a case-by-case basis if discontinuance does not compromise data collection needed for implementation of a NAAQS and if the requirements of appendix D to this part, if any, continue to be met.” Consistent with 40 C.F.R. § 58.14(b), if reductions become necessary, the Department will provide written communication describing the network changes to the EPA Regional Administrator for review and approval.

2021 Missouri PM_{2.5} Monitoring Network, Including Instrument Changes Planned through 2021

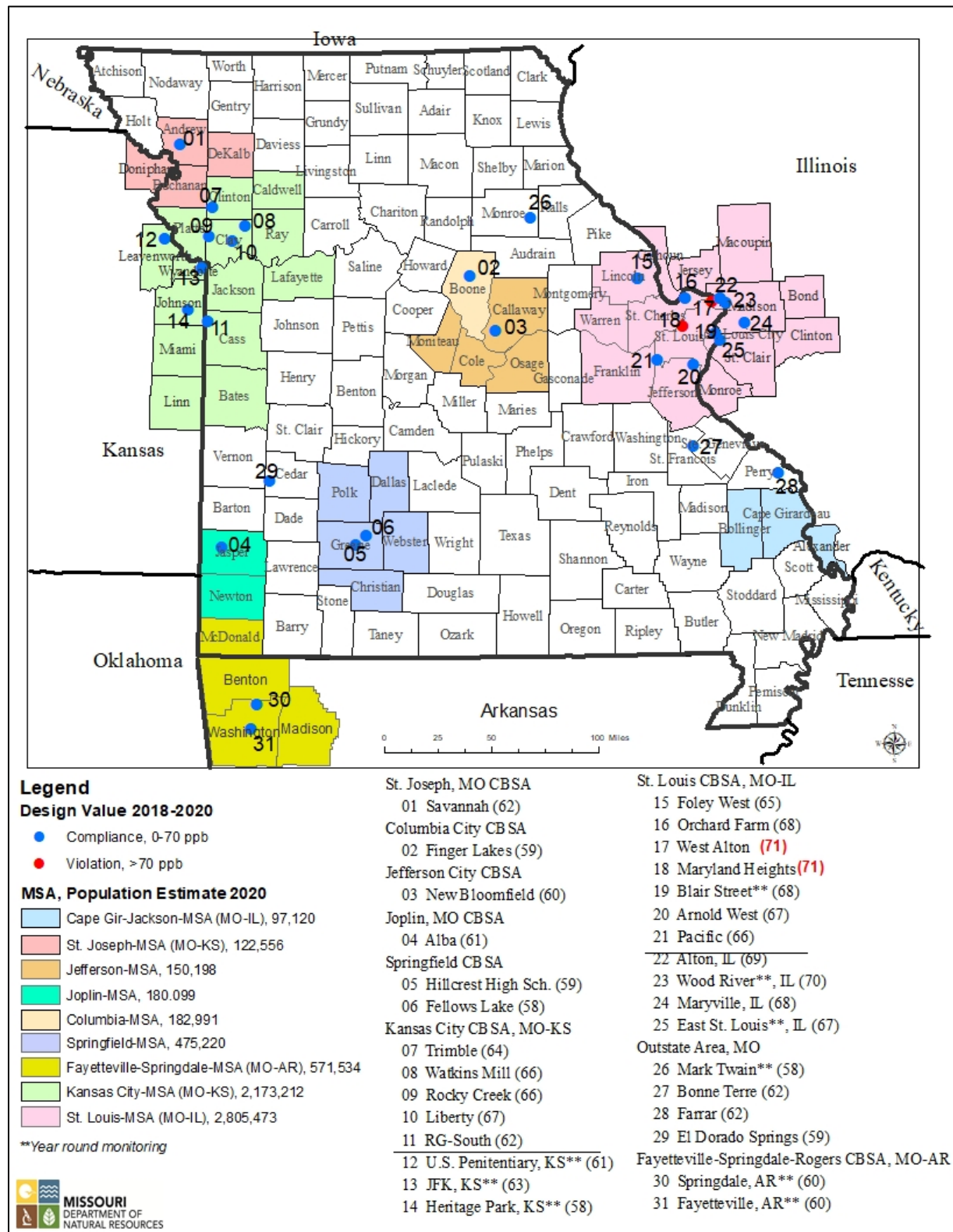
Site	Schedule*	Type	Agency	Purpose
St. Louis				
1. Blair Street	3	Collocated FRM	ESP	Ncore and Quality Assurance
	3	Speciation	ESP	Chemical Speciation Network
	H	TEOM-1405-DF FEM	ESP	24 hr & Annual NAAQS/AQI, Ncore, PM10-2.5 continuous
	H	T640X PM Mass Monitor FEMs	ESP	Method Performance Evaluation/Research. Not for NAAQS Compliance Determination
2. Branch Street	H	TEOM-1405-F FEM	ESP	24 hr NAAQS/AQI (unique middle scale monitor†)
	H	T640X PM Mass Monitor FEM	ESP	Method Performance Evaluation/Research. Not for NAAQS Compliance Determination
3. Forest Park, I-64 (near-roadway)	H	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI, PM10-2.5 continuous (micro scale monitor)
4. South Broadway	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
5. Ladue	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
	6	Collocated FRM	ESP	Quality Assurance
6. Arnold West	6	Speciation	ESP	Chemical Speciation Network
	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
Kansas City				
7. Liberty	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
8. Troost	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
		T640X PM Mass Monitor FEM	ESP	Method Performance Evaluation/Research. Not for NAAQS Compliance Determination
9. Blue Ridge I-70 (near-roadway)	H	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI, PM10-2.5 continuous (micro scale monitor)
10. Richards-Gebaur South	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
Springfield				
11. Hillcrest High School	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
	H	T640X PM Mass Monitor FEM	ESP	Method Performance Evaluation/Research. Not for NAAQS Compliance Determination
Outstate				
12. St. Joseph Pump Station	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
	H	Collocated TEOM-1405-F FEM	ESP	Quality Assurance
13. El Dorado Springs	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
14. Mingo	3	IMPROVE	Fish & Wildlife Service	Chemical Speciation Network
15. Hercules Glades	3	IMPROVE	Forest Service	Chemical Speciation Network
* 3 = Every third day; 6 = Every sixth day; H = Continuous monitoring, hourly data reported.				
† The Branch St. Monitor is a unique middle scale impact site and not eligible for comparison to the Annual PM _{2.5} NAAQS consistent with 40 CFR 58.30.				

5. Ozone Monitoring Network

There are no planned changes to the ozone monitoring network other than modification of the West Alton site as described below. Ozone monitoring will continue all year at the Mark Twain State Park (MTSP) site to collect ozone background concentrations need for Prevention of Significant Deterioration (PSD) modeling projects and at Blair Street to meet the NCore ozone monitoring requirement. The current monitoring network is based on the current ozone standard and ground-level ozone air quality monitoring network design requirements. The current ozone monitoring network meets the population-based requirements in 40 C.F.R § 58 Appendix D, which requires a minimum of two sites each in the St. Louis, Kansas City and Springfield areas. The ozone monitoring requirement for the Fayetteville-Springdale-Rogers CBSA is met by two ozone monitoring sites in Arkansas, since 96 percent of the population of that CBSA is in Arkansas and only 4 percent in Missouri.

The West Alton site is located about 16 miles north of the center of St. Louis between the Missouri and Mississippi rivers and about seven miles northwest of their confluence. The West Alton area is relatively flat, with elevation about 420 to 430 feet above sea level. The area is subject to flooding when the water level in the rivers rises, and there was widespread flooding in the area during spring and early summer 2019. The site was inoperative from May 2 to 16, and from May 22 to July 16, 2019, because it was removed to avoid damage due to flooding. The Department has evaluated the days with missing O₃ measurement at West Alton based on temperature and on ozone concentrations measured at nearby sites. Based on this evaluation, 62 of the 72 missing days were not conducive to ozone concentrations above the level of the standard. This evaluation has been submitted to EPA Region 7 for approval. If this analysis is acceptable to EPA, the data completeness requirement for 2019 data from the site will still be met. However, because of the importance of West Alton as the design value site for the St. Louis area, an elevated platform above the 2019 high water level has been constructed at the site, and installation of the shelter and instrumentation on the elevated platform is expected to be completed before the end of 2021. The elevated site will still meet probe height requirements.

**2021 Missouri Ozone (O₃) Monitoring Network*, NAAQS=70 ppb (8 hour).
(Numbers in parentheses are 2018-2020 Design Values)**



*No changes to the O₃ network are proposed in this plan other than elevation of the West Alton site.

6. PM₁₀ Monitoring Network

The Department discontinued collocated FRM PM₁₀ monitoring at the Blair Street in St. Louis in February 2018, because the FRM PM₁₀ measurement has been replaced as the primary measurement with the Teledyne API T640X instrument. Collocation is only required for manual samplers (40 C.F.R. § 58 Appendix A, 3.3.4). The Department also discontinued the other FRM PM₁₀ monitor at the Blair Street site effective July 1, 2019, because the Teledyne API T640X was designated as the primary PM₁₀ instrument and is also being used to report PMCoarse.

The St. Louis CBSA includes four PM₁₀ sites (not including the microscale Forest Park site), enough to meet the minimum monitoring requirement of four to eight sites specified in 40 C.F.R. § 58 Appendix D, 4.6. This monitor count includes the Granite City Fire Station site in Illinois, which is expected to continue based on communication received from the Illinois Environmental Protection Agency.

The PM₁₀ minimum monitoring requirement of two to four sites in the Kansas City CBSA is met by the Front Street site in Missouri and the JFK site in Kansas. The JFK site will continue, because it is the NCore site for the Kansas City area, as confirmed by the [2020 Kansas Ambient Air Monitoring Network Plan](#).

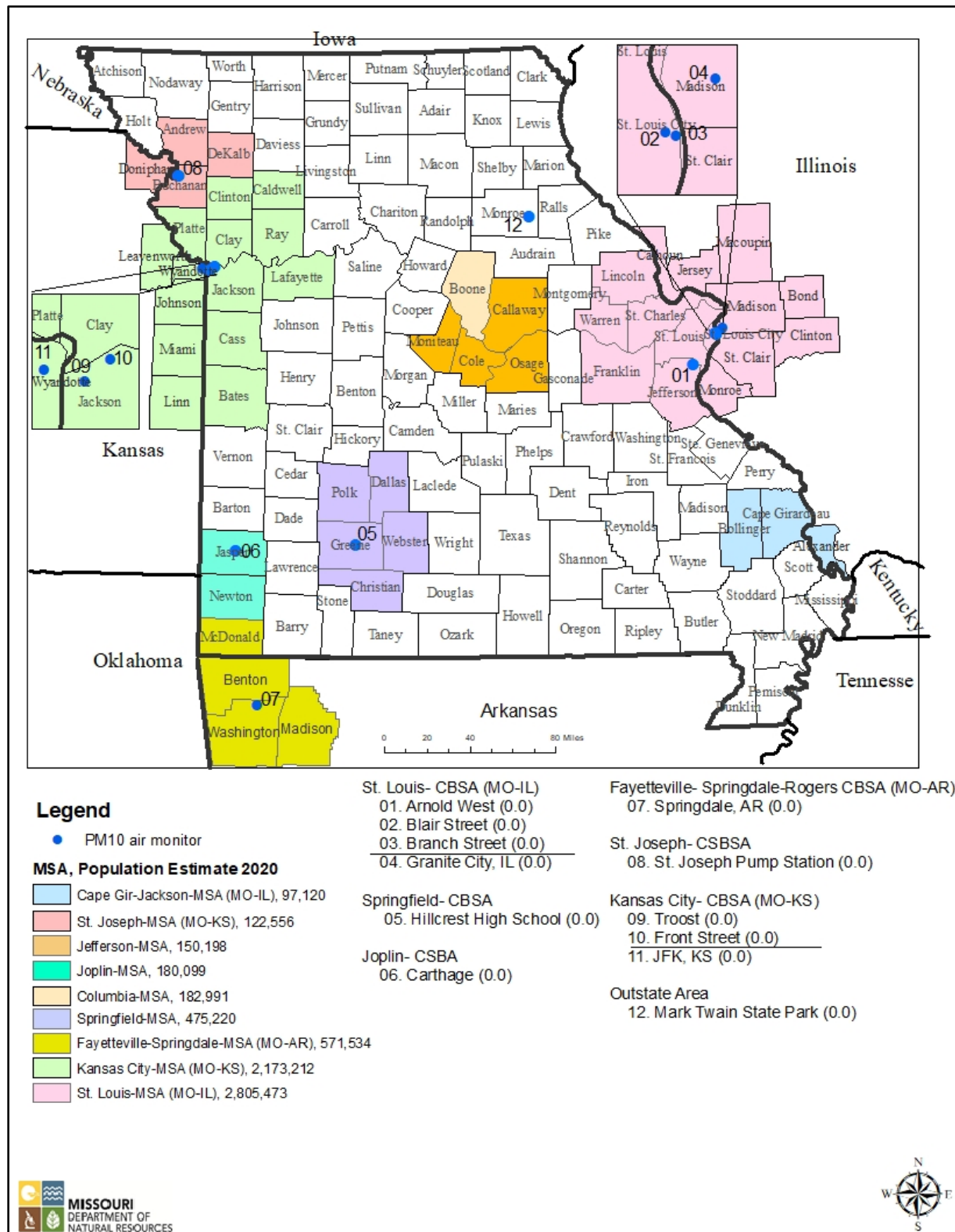
In February 2019, the Department began monitoring PM₁₀ and PM_{2.5} at Troost with a Teledyne API T640X instrument as a special purpose monitor for the purpose of ongoing evaluation of the performance of that instrument.

The PM₁₀ minimum monitoring requirement of zero to one in the Springfield CBSA is met by the Hillcrest High School site. The 2020 estimated population of the Springfield CBSA is 475,220. If this population increases to 500,000 or more, the requirement will increase to one to two sites and will continue to be met.

The 2020 estimated population of the Fayetteville-Springdale-Rogers CBSA is 571,534, but only 4 percent of this population (22,900) is in Missouri. Therefore, the PM₁₀ monitoring requirement for this area is best met by a monitoring site in Arkansas. Based on correspondence from the Arkansas Department of Environmental Quality, such a site was established on Jan. 1, 2017.

A collocated PM₁₀ TEOM-1400ab monitor was installed at the Carthage site in April 2016, and continues to operate because of the importance of that site as being near a potential source.

**2021 Missouri PM₁₀ Monitoring Network*, NAAQS=150 µg/m³ (24 hour).
(Numbers in parentheses are 2018-2020 Design Values)**



*No changes to the PM₁₀ network are proposed in this plan.

7. Nitrogen Dioxide (NO₂) Monitoring Network

The 2010 NO₂ NAAQS revision rule required near-road NO₂ monitoring at two sites in the St. Louis CBSA (population 2.8 million) and one site in the Kansas City CBSA (population 2.2 million), based on population and traffic count. The Department established the first St. Louis area site in January 2013, the Kansas City area site in July 2013, and the second near-roadway site in the St. Louis area in January 2015.

The first St. Louis area near-roadway site, Forest Park, is located adjacent to I-64 west of downtown St. Louis. Air monitoring results at that site are consistent with commuter traffic, heaviest on weekday mornings. The second St. Louis area site, called Rider Trail, I-70, is adjacent to Interstate 70, just west of Interstate 270. Interstate 70 extends across the United States and carries through traffic in addition to commuter traffic and other local traffic. Therefore, the fleet mix and congestion patterns relative to time of day and day of the week are expected to be different than at the first site

The community-wide monitoring network requirement of 40 C.F.R. § 58 Appendix D, 4.3.3(a) in CBSAs with population larger than 1 million is satisfied by the Troost site in Kansas City and the Blair Street site in St. Louis and exceeded if the JFK site in Kansas and the East St. Louis site in Illinois are also considered.

40 C.F.R. § 58, Appendix D, 4.3.4 includes the following additional requirement for NO₂ monitoring:

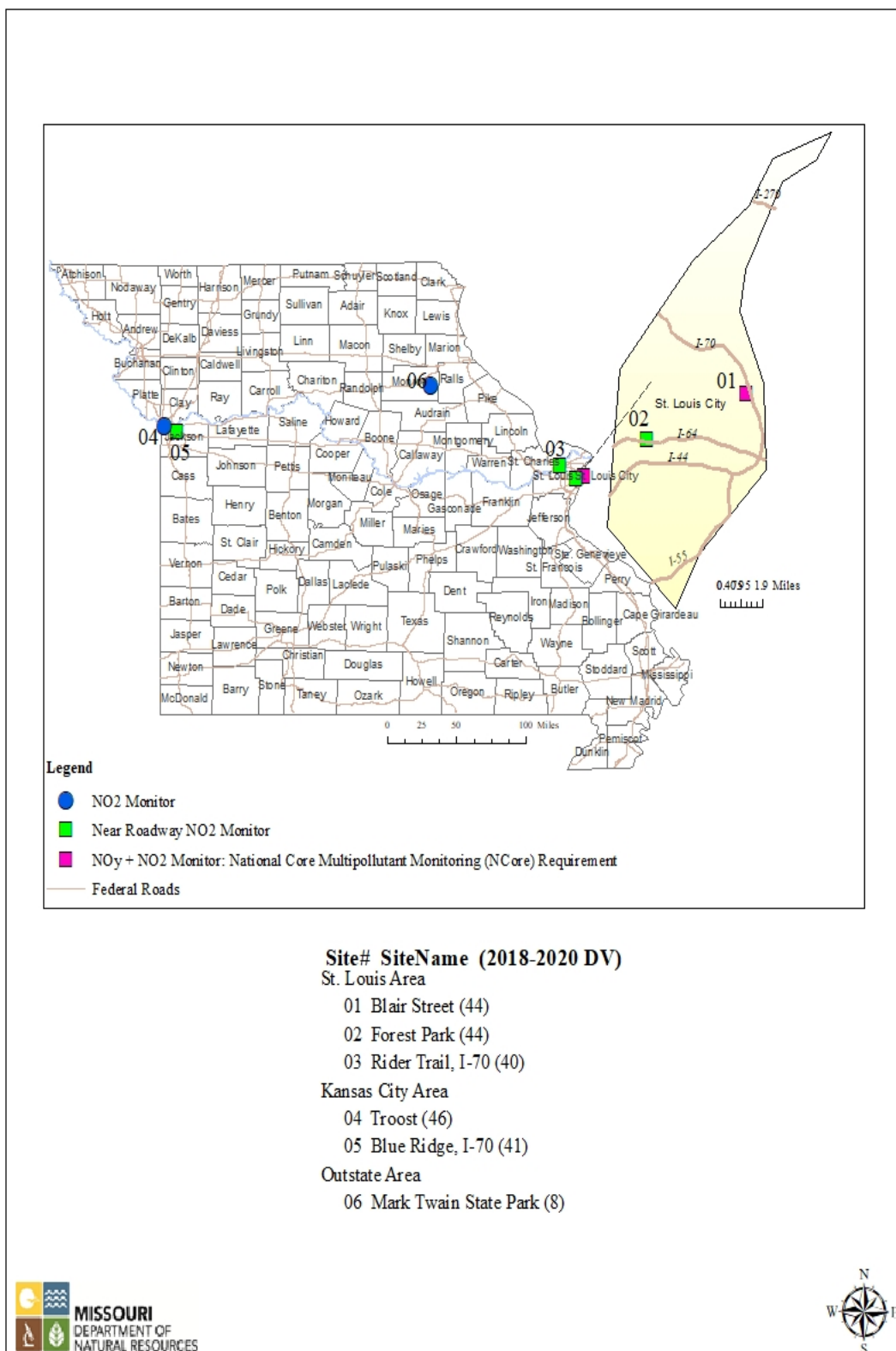
“4.3.4 Regional Administrator Required Monitoring

1. The Regional Administrators, in collaboration with States, must require a minimum of forty additional NO₂ monitoring stations nationwide in any area, inside or outside of CBSAs, above the minimum monitoring requirements, with a primary focus on siting these monitors in locations to protect susceptible and vulnerable populations....”

The Department discontinued NO₂ monitoring at the Margareta site at the beginning of 2019, and requested that EPA designate the Blair Street site as being in an area where susceptible and vulnerable populations live, work and play, therefore meeting this requirement.

The Department is currently operating a photolytic NO₂ monitor at the Blair Street site. Photolytic NO₂ monitoring is identified in EPA’s long term monitoring strategy, and this monitoring supplements the required NO_y monitoring being conducted at the Blair Street NCore site. The Department plans to replace the photolytic NO₂ monitor with a cavity attenuated phase shift CAPS) NO/NO₂/NO_x analyzer in approximately May 2021. Either instrument will satisfy the requirement for true NO₂ monitoring as part of the PAMS program (see Section 9).

**2021 Missouri Nitrogen Dioxide (NO₂) Monitoring Network*, NAAQS=100 ppb (1 hour).
(Numbers in parentheses are 2018-2020 Design Values)**

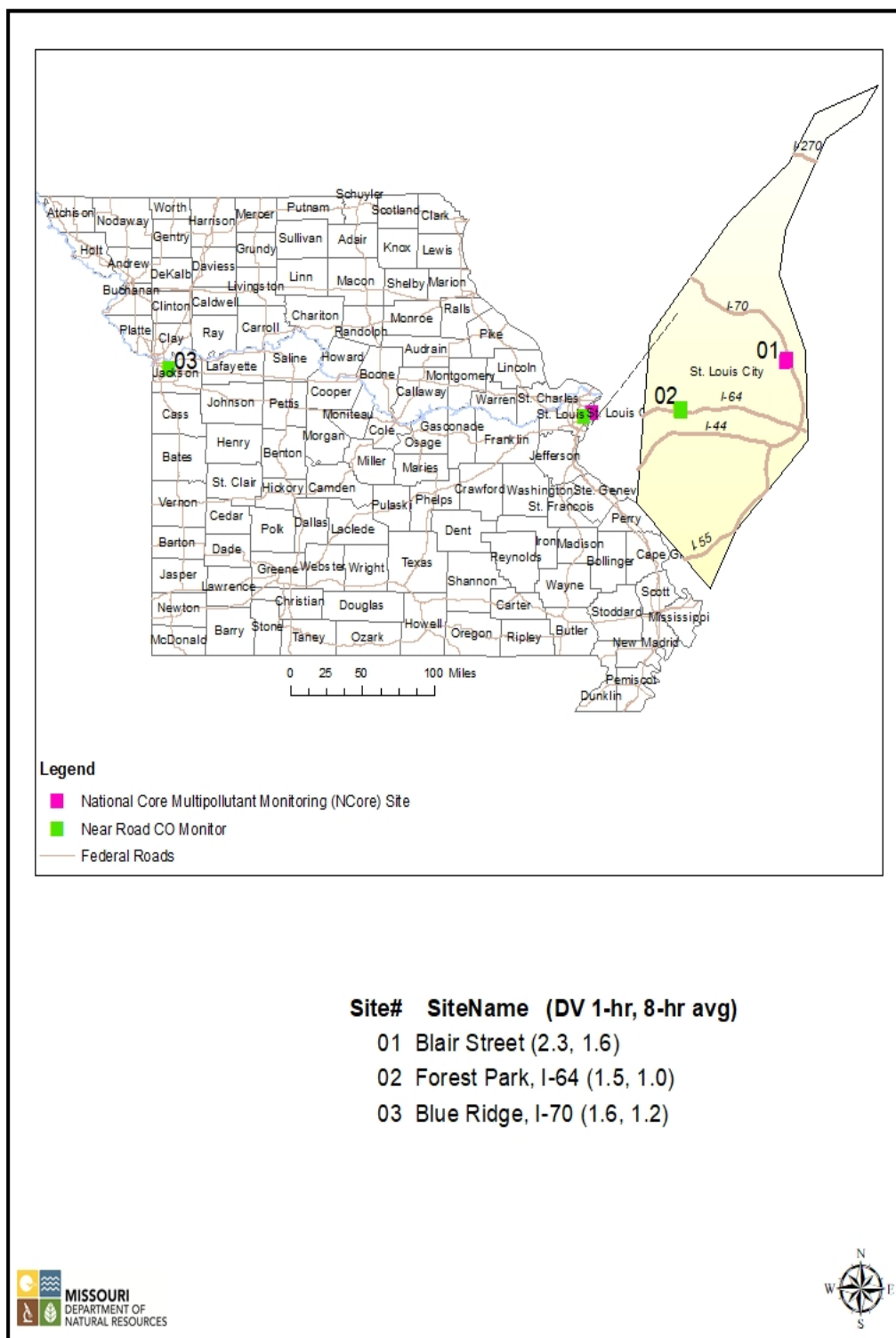


*No changes to the NO₂ network are proposed in this plan.

8. Carbon Monoxide (CO) Monitoring Network

The 2013 NAAQS rule for CO requires near-road CO monitoring at one site in the St. Louis CBSA. The Department established CO monitoring sites at the same time as the NO₂ monitoring sites at the Forest Park I-40/64 and Blue Ridge I-70 near-roadway monitoring sites. No changes to the CO monitoring network are proposed in this plan.

2021 Missouri Carbon Monoxide (CO) Monitoring Network*, NAAQS=35 ppm (1 hour), 9 ppm (8 hour). (Numbers in parentheses are 2018-2020 Design Values for the 1-hour and 8-hour standards)



*No changes to the CO network are proposed in this plan.

9. Photochemical Assessment Monitoring Station

In previous versions of the Monitoring Network Plan, this section served as the Photochemical Assessment Monitoring Station (PAMS) Implementation Plan. Now that PAMS monitoring is beginning in June 2021, the program has been implemented, so that this section now describes an ongoing program.

9.1 Introduction: Regulatory Requirements and Guidance Documents

The “National Ambient Air Quality Standards for Ozone; Final Rule,” (*Federal Register*, volume 80, number 206, Oct. 26, 2015), included amendment of 40 C.F.R. § 58, Appendix D (5) to include the following:

“5. NETWORK DESIGN FOR PHOTOCHEMICAL ASSESSMENT MONITORING STATIONS (PAMS) AND ENHANCED OZONE MONITORING

1. State and local monitoring agencies are required to collect and report PAMS measurements at each NCore site required under paragraph 3(a) of this appendix located in a CBSA with a population of 1,000,000 or more, based on the latest available census figures.
2. PAMS measurements will include:
 - (1) Hourly averaged speciated volatile organic compounds (VOCs);
 - (2) Three 8-hour averaged carbonyl samples per day on a 1 in 3 day schedule, or hourly averaged formaldehyde;
 - (3) Hourly averaged O₃;
 - (4) Hourly averaged nitrogen oxide (NO), true nitrogen dioxide (NO₂), and total reactive nitrogen (NO_y);
 - (5) Hourly averaged ambient temperature;
 - (6) Hourly vector-averaged wind direction;
 - (7) Hourly vector-averaged wind speed;
 - (8) Hourly average atmospheric pressure;
 - (9) Hourly averaged relative humidity;
 - (10) Hourly precipitation;
 - (11) Hourly averaged mixing-height;
 - (12) Hourly averaged solar radiation; and
 - (13) Hourly averaged ultraviolet radiation...

(g) At a minimum, the monitoring agency shall collect the required PAMS measurements during the months of June, July and August.”

The same rule included amendment of 40 C.F.R. § 58.10 (a) (10) to include the following:

“A plan for making Photochemical Assessment Monitoring Stations (PAMS) measurements, if applicable, in accordance with the requirements of appendix D

paragraph 5(a) of this part shall be submitted to the EPA Regional Administrator no later than July 1, 2018. The plan shall provide for the required PAMS measurements to begin by June 1, 2019.”

Primarily because of delays in national procurement of some of the required equipment for PAMS measurement, EPA revised this regulation to change the required start date for PAMS measurement to June 1, 2021 (*Federal Register*, volume 85, number 5, Jan. 8, 2020, page 834).

EPA has published a guidance document entitled *PAMS Required Sites Quality Assurance Implementation Plan [QAIP]*, October 2016. The QAIP provides guidance for both EPA and monitoring organizations in implementation of the above-referenced PAMS requirements. The QAIP includes the following recommendations:

“Monitoring organization PAMS Implementation Plan: The monitoring organization Implementation Plan document will specify how the monitoring organization will perform the measurements for the Required Network. The plan will include details on activities such as monitoring site location, costs and schedule of events, among other information. The plan will also include any waivers to siting or monitoring methods.” (page 13).

“Monitoring organizations should have their PAMS waivers and Required Network Implementation Plans finalized by July 2017 and must have them completed by the end of October 2017.”²⁰

²⁰ The regulation requires that monitoring organization Required Network IPs be developed in their Annual Network Plans due July 2018. However, in order to be operational by June 2019, it would be beneficial to have plans finalized by the end of October 2017.” (page 21).

EPA has provided additional guidance including a PAMS Technical Assistance Document (TAD), finalized in 2019, and a national QAPP, finalized in 2020, and draft standard operating procedures for PAMS instrument systems. EPA also conducts monthly conference calls to disseminate information and guidance on PAMS monitoring.

Section 9 of the 2018 (and 2019 and 2020) Monitoring Network Plan(s) fulfilled the regulatory requirement in 40 C.F.R. § 58.10 (a) (10) for submittal of a PAMS implementation plan by July 2018. An earlier version was included in the 2017 Monitoring Network Plan to meet the recommended schedule in the QAIP for submittal of the plan by July 2017 in advance of the regulatory requirement. A Department QAPP for the PAMS project based on the national QAPP has been completed.

9.2 PAMS Measurements

The Department conducts PAMS monitoring at the Blair Street Station in St. Louis. The Blair Street Station is an NCore site in a CBSA with a population of greater than 1 million. The Kansas City, Kansas NCore site will also be a PAMS site according to the [2020 Kansas Ambient Air Monitoring Network Plan](#). PAMS monitoring is beginning at Blair Street by June 1, 2021,

and will be conducted during the months of June, July, and August each year as long as the regulatory requirements are in place and funding is available to support this activity. The Department will report data from PAMS monitoring to EPA's AQS database except for carbonyl and mixing height data as noted below.

The Department has not requested any of the waivers from EPA described in 40 C.F.R. § 58, Appendix D (5) (c) through (f).

Each of the required measurements in 40 C.F.R. § 58, Appendix D (5) (b) is discussed below.

9.2.1. Hourly Averaged Speciated Volatile Organic Compounds (VOCs)

EPA has evaluated several gas chromatographs (GC) designed to measure concentrations of hourly average speciated VOCs. EPA has contracted with two of the vendors of these GC systems to provide instruments to each monitoring organization that is required to conduct PAMS monitoring. The Department has selected the Consolidated Analytical Systems (CAS)/Chromatotec AirmOzone Auto-Gas Chromatograph with Flame Ionization Detection. The Department received and installed the GC in the fall of 2020.

The following table lists target compounds for this measurement (carbonyl compounds included in the table are measured in samples described under 9.2.2 below).

9.2.2 Three 8-hour Averaged Carbonyl Samples per Day on a 1 in 3 Day Schedule, or Hourly Averaged Formaldehyde

The Department has installed and is using a sampler capable of collecting multiple 8-hour samples using derivatized sorbent tubes according to EPA method TO-11A. Analysis of TO-11A samples for the carbonyls listed in the following table (identified by footnote b) is being made available by EPA using their national contract analytical laboratory. The contract laboratory will also enter the carbonyl data into EPA's AQS database.

9.2.3 Hourly Averaged O₃

Hourly averaged ozone is already measured at Blair Street as a part of the NCore requirements and will continue.

Revised PAMS Target List^a

from EPA Memorandum, October 2, 2017, “[Additional Revisions to the Photochemical Assessment Monitoring Stations Compound Target List](#)”

Existing Priority Compounds	Optional Compounds
1,2,3-Trimethylbenzene	1,3 Butadiene
1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
1-Butene	1-Pentene
2,2,4-Trimethylpentane	2,2-Dimethylbutane
Acetaldehyde ^b	2,3,4-Trimethylpentane
Benzene	2,3-Dimethylbutane
Cis-2-Butene	2,3-Dimethylpentane
Ethane	2,4-Dimethylpentane
Ethylbenzene	2-Methylheptane
Ethylene	2-Methylhexane
Formaldehyde ^b	2-Methylpentane
Isobutane	3-Methylheptane
Isopentane	3-Methylhexane
Isoprene	3-Methylpentane
M/P Xylene	Acetone
M-Ethyltoluene	Acetylene
N-Butane	Alpha Pinene
N-Hexane	Benzaldehyde ^b
N-Pentane	Beta Pinene
O-Ethyltoluene	Cis-2-Pentene
O-Xylene	Carbon Tetrachloride
P-Ethyltoluene	Cyclohexane
Propane	Cyclopentane
Propylene	Ethanol
Styrene	Isopropylbenzene
Toluene	M-Diethylbenzene
Trans-2-Butene	Methylcyclohexane
	Methylcyclopentane
	N-Decane
	N-Heptane
	N-Nonane
	N-Octane
	N-Propylbenzene
	N-Undecane
	P-Diethylbenzene
	Tetrachloroethylene
	Trans-2-Pentene

^a This table only includes individual target compounds. Monitoring agencies should continue measuring and reporting total non-methane organic compounds (TNMOC)

^b These compounds are carbonyls and are measured using Method TO-11a

9.2.4 Hourly Averaged Nitrogen Oxide (NO), True Nitrogen Dioxide (NO₂) and Total Reactive Nitrogen (NO_y)

NO and NO_y are already measured at Blair Street as a part of the NCore requirements and will continue. True NO₂ is currently measured at Blair Street using an analyzer with a photolytic NO₂ converter. This instrument will be replaced with a cavity attenuated phase shift spectroscopy (CAPS) NO/NO₂/NO_x analyzer designated as FEM that will provide true NO₂ measurement as well as NO and NO_x.

9.2.5-9.2.10 Hourly Averaged Ambient Temperature, Hourly Vector-Averaged Wind Direction, Hourly Vector-Averaged Wind Speed, Hourly Averaged Atmospheric Pressure, Hourly Averaged Relative Humidity, and Hourly Precipitation

Temperature, wind direction, wind speed, atmospheric pressure, and relative humidity are already measured at Blair Street and will continue. The Department has procured, installed and is using a precipitation measurement instrument.

9.2.11 Hourly Averaged Mixing Height

EPA has provided funding for procurement of a ceilometer, which is an instrument that uses a laser to measure mixing height. The Department has procured, installed and begun operation of a Vaisala CL-51 ceilometer. The Department plans to transfer data from the ceilometer to a national network at the University of Maryland, Baltimore County (UMBC) that is processing ceilometer data. UMBC will input mixing height data into EPA's AQS database.

9.2.12 Hourly Averaged Solar Radiation

Solar radiation is already measured at Blair Street and will continue.

9.2.13 Hourly Averaged Ultraviolet Radiation

The Department has procured, installed and begun operation of an ultraviolet radiation measurement instrument.

Network Description/ Components

See Appendix 1 for the Network Description, which includes the following components:

Site Data

All ambient air monitoring sites are recorded in the EPA's AQS database. Site data include:

AQS Site Code

The site code includes a numerical designation for state, county and individual site. The state and county codes are assigned a number based on the alphabetical order of the state or county. Site numbers are assigned sequentially by date established in most counties. St. Louis County sites also have a division for municipality within St. Louis County.

Street Address

The official post office address of the lot where the monitors are located. Because not all sites are located in cities or towns, the street address is occasionally given as the intersection of the nearest streets or highways.

Geographical Coordinates

The coordinate system used by the Department is latitude and longitude.

Air Quality Control Region

Air Quality Control Regions (AQCR) are defined by EPA and designate either urban regions, like St. Louis or Kansas City, or rural sections of a state, such as northeast or southwest Missouri.

AQCR	AQCR Name
070	Metropolitan St. Louis
094	Metropolitan Kansas City
137	Northern Missouri
138	Southeast Missouri
139	Southwest Missouri

Core Based Statistical Area

Core Based Statistical Areas (CBSA) are defined by the U.S. Census Bureau.

CBSA Code	CBSA Name
00000	Not in a CBSA
16020	Cape Girardeau-Jackson, Missouri-Illinois
17860	Columbia
22220	Fayetteville-Springdale-Rogers, Arkansas-Missouri
27620	Jefferson City
27900	Joplin
28140	Kansas City, Missouri-Kansas
41140	St. Joseph, Missouri-Kansas
41180	St. Louis, Missouri-Illinois

Monitor Data

Each monitor is designed to detect a specific chemical pollutant or group of related pollutants. A site may have one or many monitors and not all sites will have the same monitors. Monitor data include:

Pollutant

The common name of the pollutant. Criteria pollutants are defined by statute in the Clean Air Act.

AQS Pollutant Code

Each pollutant has a unique numerical code. PAMS pollutant codes are listed in the PAMS QAPP.

Pollutant Code	Pollutant
14129	Lead – Local Conditions (LC)
42101	Carbon Monoxide
42401	Sulfur Dioxide
42406	Sulfur Dioxide 5-minute
42600	Reactive Oxides of N (NOY)
42601	Nitric Oxide
42602	Nitrogen Dioxide
42603	Oxides of Nitrogen
44201	Ozone
61103	Resultant Wind Speed
61104	Resultant Wind Direct
62101	Outdoor Temperature
62107	Indoor Temperature
62201	Relative Humidity
63301	Solar Radiation
64101	Barometric Pressure
68105	Average Ambient Temperature
68108	Sample Barometric Pressure
81102	PM ₁₀
88313	Black Carbon-LC
85101	PM ₁₀ – LC
85129	Lead PM ₁₀ LC - FRM/FEM
86101	PMCoarse – LC (FRM Difference)
88101	PM _{2.5} FRM
88500	PM _{2.5} Total Atmospheric
88502	PM _{2.5} AQI/Speciation
88503	PM _{2.5} Reference
61106	Sigma Theta
62106	Temperature Difference
65102	Precipitation

88314	UV Carbon PM _{2.5} -Local Condition
85102	Antimony
85103	Arsenic PM ₁₀ LC
85107	Barium PM ₁₀ LC
85109	Bromine PM ₁₀ LC
85110	Cadmium PM ₁₀ LC
85111	Calcium PM ₁₀ LC
85112	Chromium PM ₁₀ LC
85113	Cobalt PM ₁₀ LC
85114	Copper PM ₁₀ LC
85126	Iron PM ₁₀ LC
85128	Lead PM ₁₀ LC
85132	Manganese PM ₁₀ LC
85136	Nickel PM ₁₀ LC
85142	Mercury PM ₁₀ LC
85154	Selenium PM ₁₀ LC
85160	Tin PM ₁₀ LC
85161	Titanium PM ₁₀ LC
85164	Vanadium PM ₁₀ LC
85166	Silver PM ₁₀ LC
85167	Zinc PM ₁₀ LC
85173	Thallium PM ₁₀ LC
85180	Potassium PM ₁₀ LC
88160	Tin PM ₁₀ LC
	<u>Organic Carbon Chemical Speciation Network Unadjusted</u>
88305	PM _{2.5} LC TOT
88312	Total Carbon PM _{2.5} LC TOT
88316	Optical Elemental Carbon PM _{2.5} LC TOT

Parameter Occurrence Code

The Parameter Occurrence Code (POC) distinguishes between different monitors for the same pollutant, most often collocated monitors used for precision and quality assurance. For PM_{2.5}, different parameter occurrence codes are assigned to FRM, collocated FRM, continuous and speciation monitors.

Collocated

Collocated monitors are used for precision and quality assurance activities, and for redundancy for critical pollutants such as ozone.

Sampling Frequency

Sampling frequency varies for each pollutant, depending on the nature of the NAAQS standard and the technology used in the monitoring method. Most gaseous pollutants, PM_{2.5} and PM₁₀ monitors use continuous monitoring FEM methods and are averaged over one hour. Some particulate pollutants are filter-based FRM methods and averaged over one day.

Scale of Representation

Each monitor is intended to represent an area with similar pollutant concentration. The scales range from only a few meters to many kilometers.

- MIC Microscale** - defines the concentration in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- MID Middle** - defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometers.
- NBR Neighborhood** - defines concentrations within an extended area of a city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers.
- URB Urban** - defines an overall citywide condition with dimensions on the order of 4 to 50 kilometers.
- REG Regional** - defines air quality levels over areas having dimensions of 50 to hundreds of kilometers.

Monitor Type/Network Affiliation

The monitor's administrative classification is determined by the purpose for the monitor in the agency sampling strategy. Assignment of monitor types “NCORE” and “PAMS” is limited to EPA headquarters and is done only after a complete review and approval for all site or monitor metadata.

Code	Description
IMPROVE	IMPROVE or IMPROVE Protocol
INDEX SITE	(not currently used by Missouri)
INDUSTRIAL	Used to indicate sites operated by an industry
	Primary Quality Assurance Organization (PQAO)
NATTS	National Air Toxics Trends Station
NEAR ROAD	Near Road monitoring station
NCORE	National Core monitoring station
NON-EPA FEDERAL	(not currently used by Missouri)
NON-REGULATORY	Not used for NAAQS Compliance
PAMS	Photochemical Assessment Monitoring Stations
PROPOSED NCORE	Proposed NCore
QA COLLOCATED	Collocated to Satisfy 40 CFR 58 Appendix A
SLAMS	State or Local Air Monitoring Station
SPECIAL PURPOSE	Special Purpose Monitoring Station (SPM or SPMS)
SUPLMNTL SPECIATION	Supplemental Speciation
TRENDS SPECIATION	Trends Speciation
TRIBAL MONITORS	(not currently used by Missouri)
UNOFFICIAL PAMS	(not currently used by Missouri)

State Monitoring Objective

Each monitor has a distinct objective such as providing real-time data for public awareness or use in determining compliance with regulations. The state monitoring objective provides more information about the purpose of the monitoring in addition to the monitor objective required of 40 C.F.R. § 58.10(a)(6).

State Objective Code	Objective
AQI	Public Information
COM	NAAQS Compliance
MET	Meteorological Data
RES	Research
SIP	State Implementation Plan
SPP	Special Purpose Project
STA	State Standard

Units

The physical terms used to quantify the pollutant concentration, such as parts per million or micrograms per cubic meter.

Unit Code	Unit Description
001	$\mu\text{g}/\text{m}^3$
007	parts per million
008	parts per billion
011	meters per second
012	miles per hour
013	knots
014	degree, compass
015	degree Fahrenheit
016	millibars
017	degree Celsius
018	Langleys
019	percent humidity
021	inches
022	inches Mercury
025	Langleys per minute
059	Millimeter (Mercury)
073	Liters/minute STP-Flow
077	Micrograms
079	Watts/ m^2
083	Cubic meter/minute
105	$\mu\text{g}/\text{m}^3$ LC
106	Minutes
107	Percent
118	Liters/minute LC-Flow
119	Cubic meters/minute LC-Flow
121	parts per trillion

Monitoring/ Analytical Method

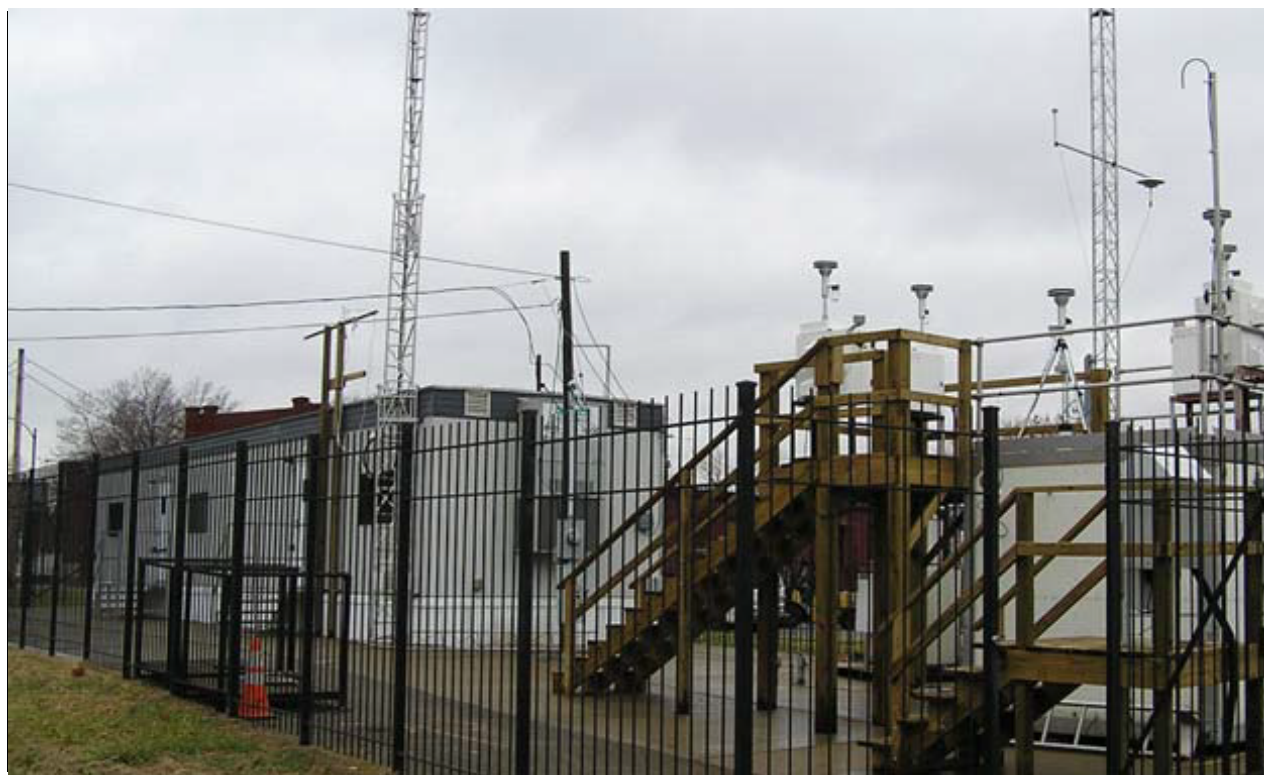
Each monitor relies on a scientific principle to determine the pollutant concentration, which is described by the sampling method. Each method code is specific for a particular pollutant; therefore a three numeral code may be used for different methods for different pollutants. This is required by 40 C.F.R. § 58.10(a)(3).

Monitoring Objective

This is the primary monitoring objective(s) for the monitoring parameter required by 40 C.F.R. § 58.10(a)(6). The monitoring objective is specific to the pollutant. Some sites may have more than one monitoring objective, but the primary objective is listed first.

Appendix 1: Missouri Monitoring Network Description

Missouri Ambient Air Monitoring Network



MIC	Microscale	Several meters up to about 100 meters
MID	Middle	100 meters to 0.5 kilometer
NBR	Neighborhood	0.5 to 4.0 kilometers range
URB	Urban	4 to 50 kilometers
REG	Regional	Tens to hundreds of kilometers
COM	National Ambient Air Quality Standards (NAAQS) Compliance	
MET	Meteorological Data	
N/A	Not Applicable	
NCore	National Multi-Pollutant Monitoring Stations	
NON-A	Non-Ambient Site	
NON-R	Non-Regulatory	
PQAO	Primary Quality Assurance Organization	
RES	Research	
SLAMS	State and Local Monitoring Stations	
SIP	State Implementation Plan	
SPEC	Speciation	
STA	State Standard	
SPM	Special Purpose Monitoring	
SPP	Special Purpose Project	
Coll	Collocated monitor. A secondary monitor at a site.	
PAMS	Photochemical Assessment Monitoring Stations	

Ameren Missouri (PQAO - 1440)

Labadie "Plant" Site

AQS Site Number **29-071-9003**

~1.5 km south of the Labadie Energy Center, Labadie, MO 63055

Latitude: 38.5486 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.83725 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 680

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Std Dev Hz Wind Direction	61106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (40m - 300m)
Temperature Virtual	62102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (40m - 300m)
Wind Direction - Resultant	61104	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (40m - 300m)
Wind Speed - Resultant	61103	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (40m - 300m)
WS - Sigma Theta (Vertical)	61110	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (40m - 300m)

Labadie, North**AQS Site Number 29-183-9004**

~150 ft. north of Terry Rd and ~200 ft. Kingfisher Ct, Augusta, MO 63332

Latitude: 38.59557 **AQCR:** 070 Metropolitan St. Louis**Longitude:** -90.82864 **MSA:** 7040 St. Louis, MO-IL**Elevation (ft):** 816

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
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Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
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Labadie, Northwest**AQS Site Number 29-183-9002**

Rt. 94, Augusta, MO 63332 near the intersection with Schlusburg Road

Latitude: 38.5818 **AQCR:** 070 Metropolitan St. Louis**Longitude:** -90.865528 **MSA:** 7040 St. Louis, MO-IL**Elevation (ft):** 550

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Outdoor Temperature	62101	Industrial	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (10m Probe Height)
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Outdoor Temperature	62101	Industrial	3	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (2m Probe Height)
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Outdoor Temperature Diff	62106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	116	Temp Diff deg C	041	Instrumental: Elect or Mach Avg Lev 2-Lev1	Other (10m - 2m Probe Heights)
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Relative Humidity	62201	Industrial	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	061	Met One 083D	Other
Std Dev Hz Wind Direction	61106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Arithmetic Standard Deviation	Other (10m Tower)
Std Dev Vt Wind Direction	61107	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)
Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Wind Direction - Resultant	61104	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Vector Summation	Other (10m Tower)
Wind Direction - Scalar	61102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Climatronics	Other (10m Tower)
Wind Speed - Resultant	61103	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Vector Summation	Other (10m Tower)
Wind Speed - Scalar	61101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	063	Climatronics	Other (10m Tower)

Wind Speed - Vertical	61109	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Electronic Averaging	Other (10m Tower)
WS - Sigma Theta (Vertical)	61110	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Arithmetic Standard Deviation	Other (10m Tower)

Labadie, Southwest

AQS Site Number **29-071-9002**

870 Albertina Lane, Labadie, MO 63055

Latitude: 38.52825 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.86301 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 630

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented

Labadie, Valley Site

AQS Site Number **29-071-9001**

2901 Labadie Bottom Road, Labadie, MO 63055

Latitude: 38.572522 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.796911 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 525

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Barometric Pressure	64101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	016	Millbars	015	Instrumental-Barometric Press Transducer	Other

Outdoor Temperature	62101	Industrial	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (10m Probe Height)
Outdoor Temperature	62101	Industrial	3	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (2m Probe Height)
Outdoor Temperature Diff	62106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	116	Temp Diff deg C	041	Instrumental: Elect or Mach Avg Lev 2-Lev1	Other (10m - 2m Probe Heights)
Precipitation	65102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	021	inches	014	Heated Tipping Bucket	Other
Relative Humidity	62201	Industrial	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	061	Met One 083D	Other
Solar Radiation	63301	Industrial	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other
Std Dev Hz Wind Direction	61106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Arithmetic Standard Deviation	Other (10m Tower)
Std Dev Vt Wind Direction	61107	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)
Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented

Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Wind Direction - Resultant	61104	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Vector Summation	Other (10m Tower)
Wind Direction - Scalar	61102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Climatronics	Other (10m Tower)
Wind Speed - Resultant	61103	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Vector Summation	Other (10m Tower)
Wind Speed - Scalar	61101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	063	Climatronics	Other (10m Tower)
Wind Speed - Vertical	61109	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Electronic Averaging	Other (10m Tower)
WS - Sigma Theta (Vertical)	61110	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Arithmetic Standard Deviation	Other (10m Tower)

Rush Island, Fults-Site, IL

AQS Site Number **17-133-9001**

Off Ivy Road, Fults, IL 62244

Latitude: 38.15908 **AQCR:** 138 SE Missouri

Longitude: -90.22728 **MSA:** 0000 Not in a MSA

Elevation (ft): 446

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Barometric Pressure	64101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	016	Millbars	015	Instrumental- Barometric Press Transducer	Other
Outdoor Temperature	62101	Industrial	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (10m Probe Height)
Outdoor Temperature	62101	Industrial	3	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (2m Probe Height)
Outdoor Temperature Diff	62106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	116	Temp Diff deg C	041	Instrumental: Elect or Mach Avg Lev 2-Lev1	Other (10m - 2m Probe Heights)
Precipitation	65102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	021	inches	014	Heated Tipping Bucket	Other
Relative Humidity	62201	Industrial	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	061	Met One 083D	Other
Solar Radiation	63301	Industrial	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental- Pyranometer	Other
Std Dev Hz Wind Direction	61106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Arithmetic Standard Deviation	Other (10m Tower)
Std Dev Vt Wind Direction	61107	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)

Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Wind Direction - Resultant	61104	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Vector Summation	Other (10m Tower)
Wind Direction - Scalar	61102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Climatronics	Other (10m Tower)
Wind Speed - Resultant	61103	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Vector Summation	Other (10m Tower)
Wind Speed - Scalar	61101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	063	Climatronics	Other (10m Tower)
Wind Speed - Vertical	61109	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Electronic Averaging	Other (10m Tower)
WS - Sigma Theta (Vertical)	61110	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Arithmetic Standard Deviation	Other (10m Tower)

Rush Island, Johnson Tall Tower

AQS Site Number **29-099-9008**

600 Johnson Rd., Festus, MO 63028

Latitude: 38.11999 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.28214 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 656

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Outdoor Temperature	62101	Industrial	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (62.5m Probe Height)
Outdoor Temperature	62101	Industrial	3	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (132.5m Probe Height)
Outdoor Temperature Diff	62106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	116	Temp Diff deg C	041	Instrumental: Elect or Mach Avg Lev 2-Lev1	Other (132.5m-62.5m Probe Heights)
Std Dev Hz Wind Direction	61106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Arithmetic Standard Deviation	Other (132.5m, 15 min)
Std Dev Hz Wind Direction	61106	Industrial	2	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Arithmetic Standard Deviation	Other (132.5m, 60 min)
Std Dev Hz Wind Direction	61106	Industrial	3	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Arithmetic Standard Deviation	Other (62.5m, A-15 min)
Std Dev Hz Wind Direction	61106	Industrial	4	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Arithmetic Standard Deviation	Other (62.5m, A-60 min)
Std Dev Hz Wind Direction	61106	Industrial	5	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Arithmetic Standard Deviation	Other (62.5m, B-15 min)

Std Dev Hz Wind Direction	61106	Industrial	6	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Arithmetic Standard Deviation	Other (62.5m, B-60 min)
Std Dev Vt Wind Direction	61107	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (132.5m, 15 min)
Std Dev Vt Wind Direction	61107	Industrial	2	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (132.5m, 60min)
Std Dev Vt Wind Direction	61107	Industrial	3	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (62.5m, A-15 min)
Std Dev Vt Wind Direction	61107	Industrial	4	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (62.5m, A-60min)
Std Dev Vt Wind Direction	61107	Industrial	5	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (62.5m, B-15 min)
Std Dev Vt Wind Direction	61107	Industrial	6	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (62.5m, B-60 min)
Wind Direction - Resultant	61104	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Vector Summation	Other (132.5m Probe Height)
Wind Direction - Resultant	61104	Industrial	2	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Vector Summation	Other (62.5m Probe Height)
Wind Direction - Resultant	61104	Industrial	3	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Vector Summation	Other (62.5m Probe Height)

Wind Direction - Scalar	61102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Climatronics	Other (132.5m Probe Height)
Wind Direction - Scalar	61102	Industrial	2	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Climatronics	Other (62.5m Probe Height)
Wind Direction - Scalar	61102	Industrial	3	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Climatronics	Other (62.5m Probe Height)
Wind Speed - Resultant	61103	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Vector Summation	Other (132.5m Probe Height)
Wind Speed - Resultant	61103	Industrial	2	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Vector Summation	Other (62.5m Probe Height)
Wind Speed - Resultant	61103	Industrial	3	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Vector Summation	Other (62.5m Probe Height)
Wind Speed - Scalar	61101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	063	Climatronics	Other (132.5m Probe Height)
Wind Speed - Scalar	61101	Industrial	2	<input type="checkbox"/>	1	N/A	MET	011	m/s	063	Climatronics	Other (62.5m Probe Height)
Wind Speed - Scalar	61101	Industrial	3	<input type="checkbox"/>	1	N/A	MET	011	m/s	063	Climatronics	Other (62.5m Probe Height)
Wind Speed - Vertical	61109	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Electronic Averaging	Other (132.5m Probe Height)

Wind Speed - Vertical	61109	Industrial	2	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Electronic Averaging	Other (62.5m Probe Height)
Wind Speed - Vertical	61109	Industrial	3	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Electronic Averaging	Other (62.5m Probe Height)
WS - Sigma Theta (Vertical)	61110	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Arithmetic Standard Deviation	Other (132.5m Probe Height)
WS - Sigma Theta (Vertical)	61110	Industrial	2	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Arithmetic Standard Deviation	Other (62.5m Probe Height)
WS - Sigma Theta (Vertical)	61110	Industrial	3	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Arithmetic Standard Deviation	Other (62.5m Probe Height)

Rush Island, Natchez

AQS Site Number**29-099-9009**

917 Natchez Trace Drive, Bloomsdale, MO 63627

Latitude: 38.10525 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.29842 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 505

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented

Rush Island, Weaver Road & Highway AA

AQS Site Number **29-099-9007**

802 Weaver Road, Festus, MO 63028

Latitude: 38.144972 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.304783 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 502

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State- Obj</i>	<i>AQS Unit- Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented

Doe Run Buick (PQAO - 1288) (Combining all Doe Run to 1290)

County Road 75

AQS Site Number **29-093-9010**

98 Iron County Road, Bixby, MO 65439

Latitude: 37.64876 **AQCR:** 138 SE Missouri

Longitude: -91.14980 **MSA:** 0000 Not in a MSA

Elevation (ft): 1365

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented

Doe Run Buick - Buick NE

AQS Site Number **29-093-9008**

346 Power Lane, Bixby West, MO 65439

Latitude: 37.65214 **AQCR:** 138 SE Missouri

Longitude: -91.11689 **MSA:** 0000 Not in a MSA

Elevation (ft): 1423

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Lead (TSP) - LC FRM/FEM 14129		Industrial	1	<input type="checkbox"/>	1/1	MID	COM	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented

Doe Run Buick - North #5 (NON-A)**AQS Site Number 29-093-0021**

Doe Run Buick - North#5, Buick, MO 65439

Latitude: 37.65178 **AQCR:** 138 SE Missouri**Longitude:** -91.13094 **MSA:** 0000 Not in a MSA**Elevation (ft):** 1443

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM 14129	Industrial	1	<input type="checkbox"/>	1/6	MID	SIP	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented
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Doe Run Buick - South #1 (NON-A)**AQS Site Number 29-093-0016**

Doe Run Buick - South#1, Buick, MO 65439

Latitude: 37.62400 **AQCR:** 138 SE Missouri**Longitude:** -91.12827 **MSA:** 0000 Not in a MSA**Elevation (ft):** 1502

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM 14129	Industrial	1	<input type="checkbox"/>	1/6	MID	SIP	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented
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Lead (TSP) - LC FRM/FEM 14129	Industrial	2	<input checked="" type="checkbox"/>	1/6	MID	SIP	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Quality Assurance (Collocation)
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Hwy 32 Northeast**AQS Site Number 29-093-9009**

1582 Highway 32, Bixby, MO 65439

Latitude: 37.65319 **AQCR:** 138 SE Missouri**Longitude:** -91.12795 **MSA:** 0000 Not in a MSA**Elevation (ft):** 1384

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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West Entrance

AQS Site Number29-093-9011

18594 Hwy KK, Boss, MO 65440

Latitude: 37.63211 **AQCR:** 138 SE Missouri

Longitude: -91.13565 **MSA:** 0000 Not in a MSA

Elevation (ft): 1463

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State- Obj</i>	<i>AQS Unit- Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
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Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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Doe Run Glover (PQAO - 1289) (Combining all Doe Run to 1290)

Doe Run Glover - Big Creek #5 (NON-A)

AQS Site Number **29-093-0029**

Doe Run Glover - Big Creek #5, Hwy 49 Glover, MO 65439

Latitude: 37.47211 **AQCR:** 138 SE Missouri

Longitude: -90.68919 **MSA:** 0000 Not in a MSA

Elevation (ft): 836

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State- Obj</i>	<i>AQS Unit- Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
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Lead (TSP) - LC FRM/FEM 14129	Industrial	1	<input type="checkbox"/>	1/6	MID	SIP	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented
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Doe Run Glover - Post Office #2 (NON-A)

AQS Site Number **29-093-0027**

Doe Run Glover - Post Office #2, Hwy 49 Glover, MO 65439

Latitude: 37.48532 **AQCR:** 138 SE Missouri

Longitude: -90.68991 **MSA:** 0000 Not in a MSA

Elevation (ft): 831

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State- Obj</i>	<i>AQS Unit- Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
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Lead (TSP) - LC FRM/FEM 14129	Industrial	1	<input type="checkbox"/>	1/6	MID	SIP	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented
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Lead (TSP) - LC FRM/FEM 14129	Industrial	2	<input checked="" type="checkbox"/>	1/6	MID	SIP	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Quality Assurance (Collocation)
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Doe Run Herculaneum (PQAO - 1290) (No Change)

Herculaneum, Church Street (NON-A)

AQS Site Number 29-099-0024

951 Church St., Herculaneum, MO 63048

Latitude: 38.258667 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.380889 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 463

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM 14129	Industrial	1	<input type="checkbox"/>	1/6	NBR	COM	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented
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Herculaneum, City Hall (Mott Street)

AQS Site Number 29-099-0020

360 Short Street, Herculaneum, MO, 63048

Latitude: 38.263394 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.379667 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 468

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM 14129	Industrial	1	<input type="checkbox"/>	1/1	MID	COM	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented & Highest Concentration
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Lead (TSP) - LC FRM/FEM 14129	Industrial	2	<input checked="" type="checkbox"/>	1/3	MID	COM	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Quality Assurance (Collocation)
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Herculaneum, Dunklin High School (Combined)

AQS Site Number **29-099-0005**

1 Black Cat Dr., Herculaneum, MO, 63048

Latitude: 38.26703 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.37875 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 445

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM 14129	Industrial	2	<input type="checkbox"/>	1/3	NBR	COM	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented & Population Exposure
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Herculaneum, North Cross

AQS Site Number **29-099-0023**

North Cross, Herculaneum, MO 63048

Latitude: 38.26216 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.38126 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 463

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM 14129	Industrial	1	<input type="checkbox"/>	1/3	NBR	COM	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented & Population Exposure
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Environmental Services Program (ESP) [PQAO - 0588]

Alba

AQS Site Number **29-097-0004**

20400 Millwood Rd., Alba, MO 64830

Latitude: 37.2385 **AQCR:** 139 SW Missouri

Longitude: -94.42468 **MSA:** 3710 Joplin, MO

Elevation (ft): 965

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-

Arnold West

AQS Site Number **29-099-0019**

1709 Lonedell Dr., Arnold, MO 63010

Latitude: 38.44862 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.3958 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 639

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Ammonium Ion PM2.5 LC	88301	SLAMS	6	<input type="checkbox"/>	1/6	NBR	RES	105	ug/m^3-LC	812	Met One SASS Nylon	Population Exposure (UC-Davis)

Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
OP CSN_Rev Undj PM2.5 LC TOR	88378	SLAMS	6	<input type="checkbox"/>	1/6	NBR	RES	105	ug/m^3-LC	842	URG 3000N w/Pall Quartz filter & Cyclone Inlet	Population Exposure (UC-Davis)
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
PM10 - STP FRM/FEM	81102	SLAMS	3	<input type="checkbox"/>	1	NBR	COM	001	ug/m^3	079	R&P SA246B TEOM	Population Exposure
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 Volatile Channel	88503	SPM	4	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure

Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	067	Instrumental: RM Young Model 05103	Other (10m Tower)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	067	Instrumental: RM Young Model 05103	Other (10m Tower)

Blair Street AQS Site Number 29-510-0085

3247 Blair Street, St. Louis, MO 63107

Latitude: 38.65638 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.19825 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 492

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
1,2,3-trimethylbenzene	45225	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
1,2,4-trimethylbenzene	45208	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
1-butene	43280	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
2,2,4-trimethylpentane	43250	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact

Acetaldehyde	43503	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	202	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Ammonium Ion PM2.5 LC	88301	SPM	6	<input type="checkbox"/>	1/3	NBR	RES	105	ug/m^3-LC	812	Met One SASS Nylon	
Barometric Pressure	64101	SLAMS	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Benzene	45201	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Black Carbon PM2.5 LC	88313	SLAMS	1	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	894	Magee Scientific TAPI M633 Aethalometer	Population Exposure
Carbon Monoxide	42101	NCORE	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	554	Gas Filter Corr Thermo Electron 48i TLE	Population Exposure
cis-2-butene	43217	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Ethane	43202	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Ethylbenzene	45203	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact

Ethylene	43203	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Formaldehyde	43502	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	202	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Indoor Temperature	62107	SLAMS	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other (Large Shelter)
Indoor Temperature	62107	SLAMS	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other (Small Shelter)
Isobutane	43214	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Isopentane	43221	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Isoprene	43243	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Lead PM10 LC	85128	SPM	6	<input type="checkbox"/>	1/6	NBR	RES	108	ng/m^3-LC	907	R&P Partisol 2025 Teflon	Population Exposure (ERG)
Lead PM10 LC	85128	SPM	7	<input checked="" type="checkbox"/>	1/6	NBR	RES	108	ng/m^3-LC	907	R&P Partisol 2025 Teflon	Population Exposure (ERG)
M&P-xylenes	45109	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact

M-ethyltoluene	45212	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Mixing Layer Height	61301	PAMS	1	<input type="checkbox"/>	1	NBR	MET	058	m	011	Ceilometer	Max precursor emissions impact
N-butane	43212	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
N-hexane	43231	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Nitric Oxide	42601	NCORE	1	<input type="checkbox"/>	1	NBR	COM	008	ppb	699	Teledyne API 200 EU/501	Population Exposure
Nitric Oxide	42601	SLAMS	2	<input type="checkbox"/>	1	NBR	COM	008	ppb	200	Teledyne API T200UP Photolytic	Population Exposure
Nitrogen Dioxide	42602	SLAMS	2	<input type="checkbox"/>	1	NBR	COM	008	ppb	200	Teledyne API T200UP Photolytic	Population Exposure
N-pentane	43220	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
O-ethyltoluene	45211	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact

OP CSN_Rev Undj PM2.5 LC TOR	88378	SPM	6	<input type="checkbox"/>	1/3	NBR	RES	105	ug/m^3-LC	842	URG 3000N w/Pall Quartz filter & Cyclone Inlet	Highest Concentration (UC-Davis)
Outdoor Temperature	62101	NCORE	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Oxides of Nitrogen	42603	SLAMS	2	<input type="checkbox"/>	1	NBR	COM	008	ppb	200	Teledyne API T200UP Photolytic	Population Exposure
Ozone	44201	NCORE	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
Ozone	44201	NCORE	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
PM10 - LC/FEM/NonFEM	85101	SLAMS	5	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
PM10 - LC/FEM/NonFEM	85101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	239	Teledyne API T640x	Population Exposure
PM10 - STP FRM/FEM	81102	SLAMS	6	<input type="checkbox"/>	1	NBR	RES	001	ug/m^3	239	Teledyne API T640x	Population Exposure
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	182	FDMS-Gravimetric 1405-DF	Population Exposure
PM2.5 - LC FRM/FEM	88101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	238	Teledyne API T640x	Population Exposure

PM2.5 Tot Atmospheric	88500	SLAMS	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
PM2.5 Volatile Channel	88503	SLAMS	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
PMCoarse - LC FRM/FEM	86101	NCORE	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	240	Teledyne API T640x	Population Exposure
PMCoarse - LC FRM/FEM	86101	SLAMS	8	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	207	FDMS-Gravimetric 1405-DF	Population Exposure
Precipitation	65102	PAMS	1	<input type="checkbox"/>	1	NBR	MET	029	mm	011	Bucket	Max precursor emissions impact
Propane	45204	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Propylene	43205	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Reactive Oxides of N (NOY)	42600	NCORE	1	<input type="checkbox"/>	1	NBR	COM	008	ppb	699	Teledyne API 200 EU/501	Population Exposure
Relative Humidity	62201	NCORE	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	014	Instrumental-Hygrometer C94 Probe	Other

Solar Radiation	63301	SLAMS	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other
Std Dev Hz Wind Direction	61106	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)
Styrene	45220	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Sulfur Dioxide	42401	NCORE	1	<input type="checkbox"/>	1	NBR	COM	008	ppb	560	Pulsed Fluorescent 43i-TLE	Population Exposure
Sulfur Dioxide Max 5-min Avg	42406	NCORE	1	<input type="checkbox"/>	1	NBR	COM	008	ppb	560	Pulsed Fluorescent	Population Exposure
Toluene	45202	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Trans-2-butene	43216	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Ultraviolet Radiation	63302	PAMS	1	<input type="checkbox"/>	1	NBR	MET	079	W/m^2	011	UV Radiometer (Photometer)	Max precursor emissions impact
UV Carbon PM2.5 LC	88314	SLAMS	1	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	894	Magee Scientific TAPI M633 Aethalometer	Population Exposure

Wind Direction - Resultant	61104	NCORE	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)
Wind Speed - Resultant	61103	NCORE	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (10m Tower)

Blue Ridge, I-70

AQS Site Number **29-095-0042**

4018 Harvard Lane, Kansas City, MO 64133

Latitude: 39.047911 **AQCR:** 094 Metropolitan Kansas City

Longitude: -94.450513 **MSA:** 3760 Kansas City, MO-KS

Elevation (ft): 960

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Black Carbon PM2.5 LC	88313	SPM	1	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	894	Magee Scientific TAPI M633 Aethalometer	Source Oriented
Carbon Monoxide	42101	SLAMS	1	<input type="checkbox"/>	1	MIC	COM	007	ppm	554	Gas Filter Corr Thermo Electron 48i TLE	Source Oriented
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Nitric Oxide	42601	SPM	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence	Source Oriented

Nitrogen Dioxide	42602	SLAMS	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence	Source Oriented
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Outdoor Temperature	62101	SPM	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (10m Probe Height)
Outdoor Temperature	62101	SPM	3	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (2m Probe Height)
Outdoor Temperature Diff	62106	SPM	1	<input type="checkbox"/>	1	N/A	MET	116	Temp Diff deg C	041	Instrumental: Elect or Mach Avg Lev 2-Lev1	Other
Oxides of Nitrogen	42603	SPM	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence	Source Oriented
PM10 - LC/FEM/NonFEM	85101	SPM	5	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Source Oriented
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	182	FDMS-Gravimetric 1405-DF	Source Oriented
PM2.5 Tot Atmospheric	88500	SPM	1	<input type="checkbox"/>	1	MIC	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Source Oriented
PM2.5 Volatile Channel	88503	SPM	1	<input type="checkbox"/>	1	MIC	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Source Oriented

PMCoarse - LC FRM/FEM	86101	SLAMS	8	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	207	FMDs-Gravimetric DF	Source Oriented
Precipitation	65102	SPM	1	<input type="checkbox"/>	1	N/A	MET	021	inches	014	Heated Tipping Bucket	Other
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Solar Radiation	63301	SPM	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other
Std Dev Hz Wind Direction	61106	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)
UV Carbon PM2.5 LC	88314	SPM	1	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	894	Magee Scientific TAPI M633 Aethalometer	Source Oriented
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (10m Tower)

Bonne TerreAQS Site Number **29-186-0005**

15797 Highway D, Bonne Terre, MO 63628

Latitude: 37.90084 **AQCR:** 138 SE Missouri**Longitude:** -90.42388 **MSA:** 0000 Not in a MSA**Elevation (ft):** 840

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	REG	COM	007	ppm	047	Ultraviolet Photometric	Regional Transport
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	REG	COM	007	ppm	047	Ultraviolet Photometric	-
Solar Radiation	63301	SPM	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other

Branch StreetAQS Site Number **29-510-0093**

100 Branch St., St. Louis, MO 63102

Latitude: 38.65643 **AQCR:** 070 Metropolitan St. Louis**Longitude:** -90.18977 **MSA:** 7040 St. Louis, MO-IL**Elevation (ft):** 429

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other

Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
PM10 - LC/FEM/NonFEM	85101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	239	Teledyne API T640x	Source Oriented
PM10 - STP FRM/FEM	81102	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	239	Teledyne API T640x	Source Oriented
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	MID	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Source Oriented
PM2.5 - LC FRM/FEM	88101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	238	Teledyne API T640x	Source Oriented
PM2.5 Volatile Channel	88503	SPM	4	<input type="checkbox"/>	1	MID	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Source Oriented
PMCoarse - LC FRM/FEM	86101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	240	Teledyne API T640x	Source Oriented
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other

Std Dev Hz Wind Direction	61106	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (10m Tower)

Buick NE

AQS Site Number 29-093-0034

346 Power Lane, Bixby West, MO 65439

Latitude: 37.65212 **AQCR:** 138 SE Missouri

Longitude: -91.11653 **MSA:** 0000 Not in a MSA

Elevation (ft): 1423

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Lead (TSP) - LC FRM/FEM	14129	SLAMS	1	<input type="checkbox"/>	1/6	MID	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Source Oriented & Highest Concentration
Lead (TSP) - LC FRM/FEM	14129	SLAMS	2	<input checked="" type="checkbox"/>	1/6	MID	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Quality Assurance (Collocation)
Sulfur Dioxide	42401	SPM	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented

Sulfur Dioxide Max 5-min Avg	42406	SPM	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10 meters)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (10 meters)

Carthage

AQS Site Number **29-097-0003**

530 Juniper, Carthage, MO 64836

Latitude: 37.19822 **AQCR:** 139 SW Missouri

Longitude: -94.31702 **MSA:** 3710 Joplin, MO

Elevation (ft): 986

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
PM10 - STP FRM/FEM	81102	SLAMS	3	<input type="checkbox"/>	1	MID	COM	001	ug/m^3	079	R&P SA246B TEOM	Source Oriented
PM10 - STP FRM/FEM	81102	SLAMS	4	<input checked="" type="checkbox"/>	1	MID	COM	001	ug/m^3	079	R&P SA246B TEOM	Quality Assurance (Collocation)
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (5.5 meters)

Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (5.5 meters)
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El Dorado Springs
AQS Site Number 29-039-0001

Highway 97 & Barnes Road, El Dorado Springs, MO 64744

Latitude: 37.70097 **AQCR:** 139 SW Missouri

Longitude: -94.03474 **MSA:** 0000 Not in a MSA

Elevation (ft): 965

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	REG	COM	007	ppm	047	Ultraviolet Photometric	Regional Transport
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	REG	COM	007	ppm	047	Ultraviolet Photometric	-
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	REG	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Regional Transport

PM2.5 Volatile Channel	88503	SPM	4	<input type="checkbox"/>	1	REG	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Regional Transport
Relative Humidity	62201	SPM	2	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental- Computed (Indirect)	Other
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	067	Instrumental: RM Young Model 05103	Other (5.5 meters)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	067	Instrumental: RM Young Model 05103	Other (5.5 meters)

Farrar

AQS Site Number **29-157-0001**

County Rd. 342, Farrar, MO 63746

Latitude: 37.70264 **AQCR:** 138 SE Missouri

Longitude: -89.698640 **MSA:** 0000 Not in a MSA

Elevation (ft): 497

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State- Obj</i>	<i>AQS Unit- Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Extreme Downwind
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-

Fellows Lake

AQS Site Number **29-077-0042**

4208 E. Farm Rd. 66, Springfield, MO 65803

Latitude: 37.31912 **AQCR:** 139 SW Missouri

Longitude: -93.20422 **MSA:** 7920 Springfield, MO

Elevation (ft): 1346

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	-

Finger Lakes

AQS Site Number **29-019-0011**

1505 E. Peabody Road, Columbia, MO 65202

Latitude: 39.07803 **AQCR:** 137 Northern Missouri

Longitude: -92.31632 **MSA:** 1740 Columbia, MO

Elevation (ft): 726

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure

Ozone 44201 SLAMS 2 ☒ 1 NBR COM 007 ppm 047 Ultraviolet Photometric -

Fletcher AQS Site Number **29-179-0002**

Forest Rd. 2236, Westfork, MO 64498

Latitude: 37.46889 **AQCR:** 138 SE Missouri

Longitude: -91.08847 **MSA:** 0000 Not in a MSA

Elevation (ft): 1256

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM 14129 SLAMS 1 ☐ 1/6 NBR COM 105 ug/m^3-LC 813 Inductively Coupled Plasma Mass Spectroscopy Source Oriented

Foley West AQS Site Number **29-113-0004**

2100 Highway Y Foley, MO 63347

Latitude: 39.04577 **AQCR:** 137 Northern Missouri

Longitude: -90.84927 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 715

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature 62107 SPM 1 ☐ 1 N/A MET 017 deg C 013 Electronic Averaging Other

Ozone 44201 SLAMS 1 ☐ 1 NBR COM 007 ppm 047 Ultraviolet Photometric Extreme Downwind

Ozone 44201 SLAMS 2 ☒ 1 NBR COM 007 ppm 047 Ultraviolet Photometric -

Forest City, Exide Levee

AQS Site Number29-087-0008

25942 Hwy 111, Forest City, MO 64451

Latitude: 40.027222 AQCR: 137 Northern Missouri

Longitude: -95.235833 MSA: 0000 Not in a MSA

Elevation (ft): 904

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Lead (TSP) - LC FRM/FEM 14129		SLAMS	1	<input type="checkbox"/>	1/6	MID	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Source Oriented

Forest Park

AQS Site Number29-510-0094

5600 Clayton Avenue, St. Louis, MO 63110

Latitude: 38.63114 AQCR: 070 Metropolitan St. Louis

Longitude: -90.28115 MSA: 7040 St. Louis, MO-IL

Elevation (ft): 551

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Black Carbon PM2.5 LC	88313	SPM	1	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	894	Magee Scientific TAPI M633 Aethalometer	Source Oriented
Carbon Monoxide	42101	SLAMS	1	<input type="checkbox"/>	1	MIC	COM	007	ppm	554	Gas Filter Corr Thermo Electron 48i TLE	Source Oriented
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other

Nitric Oxide	42601	SPM	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence	Source Oriented
Nitrogen Dioxide	42602	SLAMS	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence	Source Oriented
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Outdoor Temperature	62101	SPM	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (10m Probe Height)
Outdoor Temperature	62101	SPM	3	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (2m Probe Height)
Outdoor Temperature Diff	62106	SPM	1	<input type="checkbox"/>	1	N/A	MET	116	Temp Diff deg C	041	Instrumental: Elect or Mach Avg Lev 2-Lev1	Other (10m - 2m Probe Height)
Oxides of Nitrogen	42603	SPM	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence	Source Oriented
PM10 - LC/FEM/NonFEM	85101	SPM	5	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Source Oriented
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	182	FMDS-Gravimetric 1405-DF	Source Oriented

PM2.5 Tot Atmospheric	88500	SPM	1	<input type="checkbox"/>	1	MIC	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Source Oriented
PM2.5 Volatile Channel	88503	SPM	1	<input type="checkbox"/>	1	MIC	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Source Oriented
PMCoarse - LC FRM/FEM	86101	SLAMS	8	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	207	FDMS-Gravimetric 1405-DF	Source Oriented
Precipitation	65102	SPM	1	<input type="checkbox"/>	1	N/A	MET	021	inches	014	Heated Tipping Bucket	Other
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Solar Radiation	63301	SLAMS	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other
Std Dev Hz Wind Direction	61106	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)
UV Carbon PM2.5 LC	88314	SPM	1	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	894	Magee Scientific TAPI M633 Aethalometer	Source Oriented
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)

Wind Speed - Resultant 61103 SPM 1 ☐ 1 N/A MET 012 mph 065 Instrumental: RM Young Model 05305 Other (10m Tower)

Front Street

AQS Site Number **29-095-0018**

1331 N. Jackson, Kansas City, MO 64120

Latitude: 39.13198 **AQCR:** 094 Metropolitan Kansas City

Longitude: -94.52137 **MSA:** 3760 Kansas City, MO-KS

Elevation (ft): 728

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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PM10 - STP FRM/FEM	81102	SLAMS	3	<input type="checkbox"/>	1	NBR	COM	001	ug/m^3	079	R&P SA246B TEOM	Highest Concentration & Population Exposure
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Herculaneum, Dunklin High School (Combined)

AQS Site Number **29-099-0005**

1 Black Cat Dr., Herculaneum, MO, 63048

Latitude: 38.26703 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.37875 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 445

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM	14129	SLAMS	1	<input type="checkbox"/>	1/6	NBR	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Source Oriented
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Herculaneum, Mott Street

AQS Site Number **29-099-0027**

747 Mott St., Herculaneum, MO, 63048

Latitude: 38.263394 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.379667 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 468

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Lead (TSP) - LC FRM/FEM 14129		SLAMS	1	<input type="checkbox"/>	1/1	MID	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Source Oriented & Highest Concentration
Lead (TSP) - LC FRM/FEM 14129		SLAMS	2	<input checked="" type="checkbox"/>	1/3	MID	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Quality Assurance (Collocation)
Sulfur Dioxide	42401	SLAMS	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented & Highest Concentration
Sulfur Dioxide Max 5-min Avg	42406	SPM	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented & Highest Concentration
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (5.5 meters)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (5.5 meters)

Herculaneum, Sherman

AQS Site Number **29-099-0013**

460 Sherman St., Herculaneum, MO, 63048

Latitude: 38.27170 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.37658 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 462

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Lead (TSP) - LC FRM/FEM 14129		SLAMS	1	<input type="checkbox"/>	1/6	NBR	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Source Oriented

Hillcrest High School (T640x to be installed)

AQS Site Number **29-077-0036**

3319 N. Grant, Springfield, MO 65803

Latitude: 37.25607 **AQCR:** 139 SW Missouri

Longitude: -93.29970 **MSA:** 7920 Springfield, MO

Elevation (ft): 1321

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure

Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	-
PM10 - LC/FEM/NonFEM	85101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	239	Teledyne API T640x	Population Exposure
PM10 - STP FRM/FEM	81102	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	239	Teledyne API T640x	Population Exposure
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 - LC FRM/FEM	88101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	238	Teledyne API T640x	Population Exposure
PM2.5 Tot Atmospheric	88500	APM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
PM2.5 Tot Atmospheric	88500	SPM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
PM2.5 Volatile Channel	88503	SPM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other

73 Hunter Ave., Ladue, MO 63124

Latitude: 38.65028 **AQCR:** 070 Metropolitan St. Louis**Longitude:** -90.35021 **MSA:** 7040 St. Louis, MO-IL**Elevation (ft):** 511

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
PM2.5 - LC FRM/FEM	88101	SLAMS	2	<input checked="" type="checkbox"/>	1/6	NBR	COM	105	ug/m^3-LC	145	R&P 2025 Sequential w/VSCC	Quality Assurance (Collocation)
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 Volatile Channel	88503	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other

Highway 33 & County Home Rd., Liberty, MO 64068

Latitude: 39.30314 **AQCR:** 094 Metropolitan Kansas City**Longitude:** -94.37678 **MSA:** 3760 Kansas City, MO-KS**Elevation (ft):** 941

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
PM10 - LC/FEM/NonFEM	85101	SPM	5	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure

PM2.5 Tot Atmospheric	88500	SPM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
PM2.5 Volatile Channel	88503	SPM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Solar Radiation	63301	SPM	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other

Mark Twain State Park

AQS Site Number **29-137-0001**

20057 State Park Office Rd., Stoutsville, MO 65283

Latitude: 39.47510 **AQCR:** 137 Northern Missouri

Longitude: -91.78899 **MSA:** 0000 Not in a MSA

Elevation (ft): 710

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Nitric Oxide	42601	SPM	1	<input type="checkbox"/>	1	REG	COM	008	ppb	074	Chemiluminescence	General/Background
Nitrogen Dioxide	42602	SPM	1	<input type="checkbox"/>	1	REG	COM	008	ppb	074	Chemiluminescence	General/Background

Oxides of Nitrogen	42603	SPM	1	<input type="checkbox"/>	1	REG	COM	008	ppb	074	Chemiluminescence	General/Background
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	REG	COM	007	ppm	047	Ultraviolet Photometric	General/Background
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	REG	COM	007	ppm	047	Ultraviolet Photometric	-
PM10 - STP FRM/FEM	81102	SPM	3	<input type="checkbox"/>	1	REG	SIP	001	ug/m^3	079	R&P SA246B TEOM	General/Background
Sulfur Dioxide	42401	SPM	1	<input type="checkbox"/>	1	REG	SIP	008	ppb	060	Pulsed Fluorescent	General/Background
Sulfur Dioxide Max 5-min Avg	42406	SPM	1	<input type="checkbox"/>	1	NBR	COM	008	ppb	060	Pulsed Fluorescent	General/Background
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (10m Tower)

Maryland Heights

AQS Site Number **29-189-0014**

13044 Marine Ave., Maryland Heights, MO 63146

Latitude: 38.71085 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.47606 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 607

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
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Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
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New Bloomfield

AQS Site Number **29-027-0002**

2625 Meadow Lake View, New Bloomfield, MO, 65063

Latitude: 38.70608 **AQCR:** 137 Northern Missouri

Longitude: -92.09308 **MSA:** 0000 Not in a MSA

Elevation (ft): 860

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
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Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
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Oates AQS Site Number 29-179-0034

13155 Highway KK, Boss, MO 65440

Latitude: 37.56485 **AQCR:** 138 SE Missouri
Longitude: -91.11423 **MSA:** 0000 Not in a MSA
Elevation (ft): 1134

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM 14129	SLAMS	1	<input type="checkbox"/>	1/6	NBR	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Source Oriented
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Orchard Farm AQS Site Number 29-183-1004

2165 Highway V, St. Charles, MO 63301

Latitude: 38.8994 **AQCR:** 070 Metropolitan St. Louis
Longitude: -90.44917 **MSA:** 7040 St. Louis, MO-IL
Elevation (ft): 441

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	Extreme Downwind

Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	-
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Pacific**AQS Site Number 29-189-0005**

18701 Old Highway 66, Pacific, MO 63069

Latitude: 38.49011 **AQCR:** 070 Metropolitan St. Louis**Longitude:** -90.70509 **MSA:** 7040 St. Louis, MO-IL**Elevation (ft):** 524

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
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Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
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Richards Gebaur-South (PM2.5 method to change from DF**AQS Site Number 29-037-0003**

1802 E. 203rd Street, Belton, MO, 64012

Latitude: 38.75961 **AQCR:** 094 Metropolitan Kansas City**Longitude:** -94.57983 **MSA:** 3760 Kansas City, MO-KS**Elevation (ft):** 1082

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
PM10 - LC/FEM/NonFEM	85101	SPM	5	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 Tot Atmospheric	88500	SPM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
PM2.5 Volatile Channel	88503	SPM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	067	Instrumental: RM Young Model 05103	Other (10m Tower)

Wind Speed - Resultant 61103 SPM 1 ☐ 1 N/A MET 012 mph 067 Instrumental: RM Young Model 05103 Other (10m Tower)

Rider Trail, I-70 **AQS Site Number 29-189-0016**

13080 Hollenberg Drive, Bridgeton, MO 63044

Latitude: 38.75264 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.44884 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 515

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Nitric Oxide	42601	SPM	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence	Source Oriented
Nitrogen Dioxide	42602	SLAMS	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence	Source Oriented
Outdoor Temperature	62101	SPM	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (10m Probe Height)
Outdoor Temperature	62101	SPM	3	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (2m Probe Height)

Outdoor Temperature Diff	62106	SPM	1	<input type="checkbox"/>	1	N/A	MET	116	Temp Diff deg C	041	Instrumental: Elect or Mach Avg Lev 2-Lev1	Other (10m - 2m Probe Height)
Oxides of Nitrogen	42603	SPM	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescen ce	Source Oriented
Precipitation	65102	SPM	1	<input type="checkbox"/>	1	N/A	MET	021	inches	014	Heated Tipping Bucket	Other
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental- Computed (Indirect)	Other
Solar Radiation	63301	SPM	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental- Pyranometer	Other
Std Dev Hz Wind Direction	61106	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)
Sulfur Dioxide	42401	SPM	1	<input type="checkbox"/>	1	MID	SPP	008	ppb	060	Pulsed Fluorescent	Population Exposure
Sulfur Dioxide Max 5-min Avg	42406	SPM	1	<input type="checkbox"/>	1	MID	SPP	008	ppb	060	Pulsed Fluorescent	Population Exposure
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)

Wind Speed - Resultant 61103 SPM 1 ☐ 1 N/A MET 012 mph 065 Instrumental: RM Young Model 05305 Other (10m Tower)

Rocky Creek **AQS Site Number 29-047-0006**

2-114 NW 132 St., Kansas City, MO 64165

Latitude: 39.33181 **AQCR:** 094 Metropolitan Kansas City

Longitude: -94.58069 **MSA:** 3760 Kansas City, MO-KS

Elevation (ft): 990

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
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Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
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Savannah **AQS Site Number 29-003-0001**

11796 Highway 71, Savannah, MO 64485

Latitude: 39.9544 **AQCR:** 137 Northern Missouri

Longitude: -94.849 **MSA:** 7000 St. Joseph, MO

Elevation (ft): 1120

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
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Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
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South Broadway AQS Site Number **29-510-0007**

8227 South Broadway, St. Louis, MO 63111

Latitude: 38.5425 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.263611 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 452

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Barometric Pressure	64101	SLAMS	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 Volatile Channel	88503	SPM	4	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure

Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental- Computed (Indirect)	Other
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St. Joe State Park AQS Site Number 29-187-0007

2800 Pimville Rd., Park Hills, MO 63601

Latitude: 37.81413 **AQCR:** 138 SE Missouri

Longitude: -90.50738 **MSA:** 0000 Not in a MSA

Elevation (ft): 937

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State- Obj	AQS Unit- Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM 14129	SPM	1	<input type="checkbox"/>	1/6	NBR	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Source Oriented
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St. Joseph Pump Station AQS Site Number 29-021-0005

S. Highway 759, St. Joseph, MO 64501

Latitude: 39.741667 **AQCR:** 094 Metropolitan Kansas City

Longitude: -94.858333 **MSA:** 7000 St. Joseph, MO

Elevation (ft): 845

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State- Obj	AQS Unit- Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental- Barometric Sensor	Other
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Barometric Pressure	64101	SPM	2	<input checked="" type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental- Barometric Sensor	Other
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Outdoor Temperature	62101	SPM	2	<input checked="" type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
PM10 - LC/FEM/NonFEM	85101	SPM	5	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
PM10 - LC/FEM/NonFEM	85101	SPM	6	<input checked="" type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Quality Assurance (Collocation)
PM10 - STP FRM/FEM	81102	SLAMS	3	<input type="checkbox"/>	1	NBR	COM	001	ug/m^3	079	R&P SA246B TEOM	Population Exposure
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 - LC FRM/FEM	88101	SLAMS	5	<input checked="" type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Quality Assurance (Collocation)
PM2.5 Tot Atmospheric	88500	SPM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure
PM2.5 Tot Atmospheric	88500	SPM	2	<input checked="" type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Quality Assurance (Collocation)
PM2.5 Volatile Channel	88503	SPM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Population Exposure

PM2.5 Volatile Channel	88503	SPM	2	<input checked="" type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric 1405-DF	Quality Assurance (Collocation)
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Relative Humidity	62201	SPM	2	<input checked="" type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (5.5 meters)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (5.5 meters)

Trimble

AQS Site Number29-049-0001

7536 SW. O Highway, Trimble, MO 64492

Latitude: 39.53063 AOCR: 137 Northern Missouri

Longitude: -94.55594 MSA: 3760 Kansas City, MO-KS

Elevation (ft): 1033

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration

Ozone 44201 SLAMS 2 ☒ 1 NBR COM 007 ppm 047 Ultraviolet Photometric -

Troost

AQS Site Number 29-095-0034

724 Troost (Rear), Kansas City, MO 64106

Latitude: 39.10463 **AQCR:** 094 Metropolitan Kansas City

Longitude: -94.57040 **MSA:** 3760 Kansas City, MO-KS

Elevation (ft): 941

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Nitric Oxide	42601	SPM	1	<input type="checkbox"/>	1	URB	COM	008	ppb	074	Chemiluminescence	Population Exposure
Nitrogen Dioxide	42602	SLAMS	1	<input type="checkbox"/>	1	URB	COM	008	ppb	074	Chemiluminescence	Population Exposure
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Oxides of Nitrogen	42603	SPM	1	<input type="checkbox"/>	1	URB	COM	008	ppb	074	Chemiluminescence	Population Exposure

PM10 - LC/FEM/NonFEM	85101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	239	Teledyne API T640x	Population Exposure
PM10 - STP FRM/FEM	81102	SPM	6	<input type="checkbox"/>	1	NBR	RES	001	ug/m^3	239	Teledyne API T640x	Population Exposure
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 - LC FRM/FEM	88101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	238	Teledyne API T640x	Population Exposure
PM2.5 Volatile Channel	88503	SPM	4	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Sulfur Dioxide	42401	SLAMS	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	SLAMS	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented

Ursuline North
AQS Site Number29-099-0025

210 Glennon Heights Rd., Crystal City, MO 63019

Latitude: 38.243 AQCR: 070 Metropolitan St. Louis

Longitude: -90.37372 MSA: 7040 St. Louis, MO-IL

Elevation (ft): 578

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Lead (TSP) - LC FRM/FEM 14129		SLAMS	1	<input type="checkbox"/>	1/6	NBR	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Source Oriented & Upwind Background

Watkins Mill State Park
AQS Site Number29-047-0003

Watkins Mill Road, Lawson, MO 64062

Latitude: 39.40770 AQCR: 094 Metropolitan Kansas City

Longitude: -94.26539 MSA: 3760 Kansas City, MO-KS

Elevation (ft): 1009

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	Extreme Downwind
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	-

General Electric Store, Highway 94, West Alton, MO 63386

Latitude: 38.8725 **AQCR:** 070 Metropolitan St. Louis**Longitude:** -90.226389 **MSA:** 7040 St. Louis, MO-IL**Elevation (ft):** 425

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	-
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Solar Radiation	63301	SPM	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	067	Instrumental: RM Young Model 05103	Other (10m Tower)

Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	067	Instrumental: RM Young Model 05103	Other (10m Tower)
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Magnitude 7 Metals (PQAO - 2368)

Magnitude 7 Metals, Site # 1 AECL Water Tower Location AQS Site Number 29-143-9001

391 St Jude Industrial Park, New Madrid, MO 63869

Latitude: 36.51364 **AQCR:** 138 SE Missouri

Longitude: -89.56093 **MSA:** 0000 Not in a MSA

Elevation (ft): 297

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Indoor Temperature	62107	Industrial	1	<input type="checkbox"/>	1	MID	MET	017	deg C	013	Electronic Averaging	Other
Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented

Magnitude 7 Metals, Site # 2 East Graveyard AQS Site Number 29-143-9002

391 St Jude Industrial Park, New Madrid, MO 63869

Latitude: 36.50838 **AQCR:** 138 SE Missouri

Longitude: -89.56074 **MSA:** 0000 Not in a MSA

Elevation (ft): 296

Parameter	AQS Code	AQS Monitor Type	AQS POC	Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Indoor Temperature	62107	Industrial	1	<input type="checkbox"/>	1	MID	MET	017	deg C	013	Electronic Averaging	Other

Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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Magnitude 7 Metals, Site # 3 West Entrance	AQS Site Number 29-143-9003
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391 St Jude Industrial Park, New Madrid, MO 63869

Latitude: 36.50899 **AQCR:** 138 SE Missouri

Longitude: -89.57099 **MSA:** 0000 Not in a MSA

Elevation (ft): 298

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC</i>	<i>Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>State-Obj</i>	<i>AQS Unit-Code</i>	<i>AQS Unit</i>	<i>AQS Method Code</i>	<i>AQS Method</i>	<i>AQS Monitor Objective</i>
Indoor Temperature	62107	Industrial	1	<input type="checkbox"/>	1	MID	MET	017	deg C	013	Electronic Averaging	Other
Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
Wind Direction - Resultant	61104	Industrial	1	<input type="checkbox"/>	1	MID	MET	014	deg	065	Instrumental: RM Young Model 05305	Other
Wind Speed - Resultant	61103	Industrial	1	<input type="checkbox"/>	1	MID	MET	011	m/s	065	Instrumental: RM Young Model 05305	Other

Appendix 2: Comments on Proposed 2021 Monitoring Network Plan, Responses to Comments and Corrections

Comment Received from Ameren Missouri:



July 6, 2021

Mr. Steven Hall
Missouri Department of Natural Resources
Air Pollution Control Program
Air Quality Analysis Section/Air Monitoring Unit
P.O. Box 176
Jefferson City, MO 65102-0176

Submitted Electronically

Subject: Comments on the 2021 Monitoring Network Plan

Dear Mr. Hall:

Union Electric Company, d/b/a Ameren Missouri, hereby submits comments on the Missouri Department of Natural Resources (MDNR) 2021 Monitoring Network Plan. Ameren Missouri generally supports the plan and its alignment with requirements, priorities, and budgetary limitations.

Ameren offers comment on the SO₂ monitoring network discussion of the Ameren Missouri Rush Island Energy Center, mentioned on page 18 of the plan. This section of the document does not properly credit the monitors with having no violations of the 2010 SO₂ National Ambient Air Quality Standards (NAAQS), unlike the discussion of the Labadie Energy Center SO₂ monitoring results. Likewise, the Rush Island discussion does not reference MDNR's work and U.S. EPA's proposal to redesignate the area to attainment of the 2010 SO₂ NAAQS. The MDNR requested redesignation of the area in February 2016 based on three years of complete monitoring data showing no violations of the 2010 SO₂ NAAQS, including the Rush Island monitoring network. The U.S. EPA published a Clean Data Determination on September 13, 2017 for the Jefferson County area based on the same SO₂ monitoring data. MDNR followed these actions with a Redesignation Request and Maintenance Plan in December 2017, and Maintenance Plan Supplement in April 2019. These actions together, along with a letter from U.S. EPA dated August 10, 2020, indicate it is "a mutual priority to

redesignate this area." U.S. EPA proposed redesignation of the Jefferson County SO₂ nonattainment area to attainment of the 2010 SO₂ standard on June 29, 2021 (86 FR 34177). Highlighting the successes of the Rush Island monitoring network to allow redesignation of the area would align with other industrial monitoring sections of the 2021 Monitoring Network Plan while also providing context for the SO₂ monitoring data.

Please contact Michael Hutcheson at (314) 554-2319 if you have any questions regarding these comments.

Sincerely,



Steven C. Whitworth
Senior Director, Environmental Policy and Analysis

Response to Comment:

The Department agrees that more information could have been included in the plan related to monitoring near the Rush Island Energy Center, and Section 2.0 of the final version of the plan has been revised to include this information, with some minor corrections to the information as stated in the comment letter. The comment letter states that the Department requested redesignation of the area in February 2016. What the Department actually requested was that EPA make a clean data determination for the area, which is different from a redesignation. The comment letter states that the Department submitted a maintenance plan supplement in April 2019. That submittal was actually in April 2021.

Corrections:

Section 2.0 of this final version of the plan has been revised to include the information identified in the Ameren Missouri comment letter, corrected as described above.

The table of contents has been corrected to indicate that this plan is the 2021 plan (not 2020).

No changes to the network or to network operation are proposed in response to the above comment; only additional background information related to one of the industrial monitoring networks has been added to the final version of the plan.